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NAVAL ARCHITECTURE

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Putnam's Advanced Science Series.

NAVAL ARCHITECTURE:

A TREATISE

ON

LAYING OFF AND BUILDING
WOOD, IRON, AND COMPOSITE SHIPS.

BY
SAMUEL J. P. THEARLE,

Fellow of the Royal School of Naval Architecture; Member of the Institution of Naval Architects;
of the Controller of the Navy's Department, Admiralty, Whitehall.

VOL. II.—PLATES.



NEW YORK:

G. P. PUTNAM'S SONS,

FOURTH AVENUE AND TWENTY-THIRD STREET.

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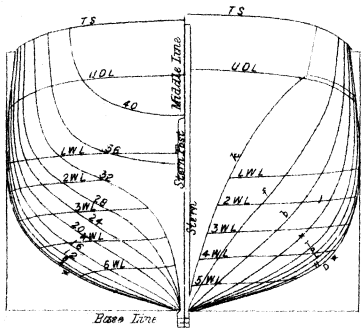
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Body Plan



Sheer Plan

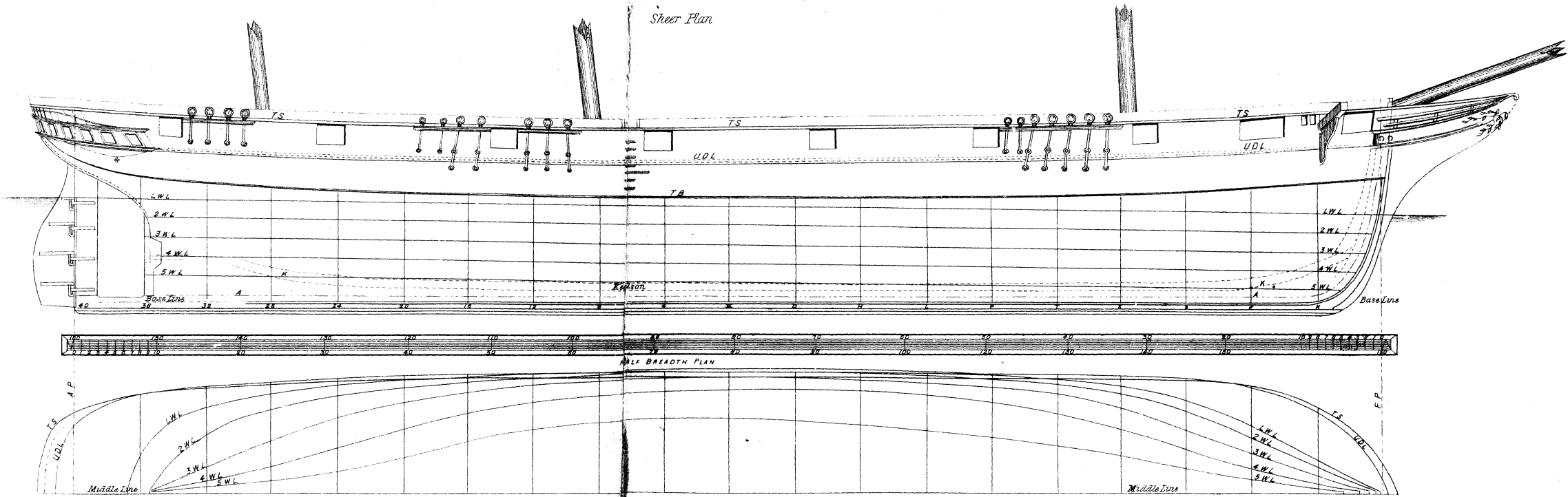


Plate II

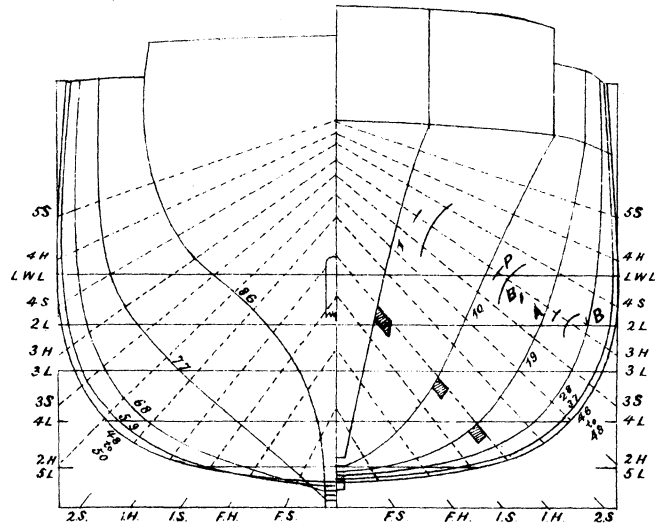


Plate III

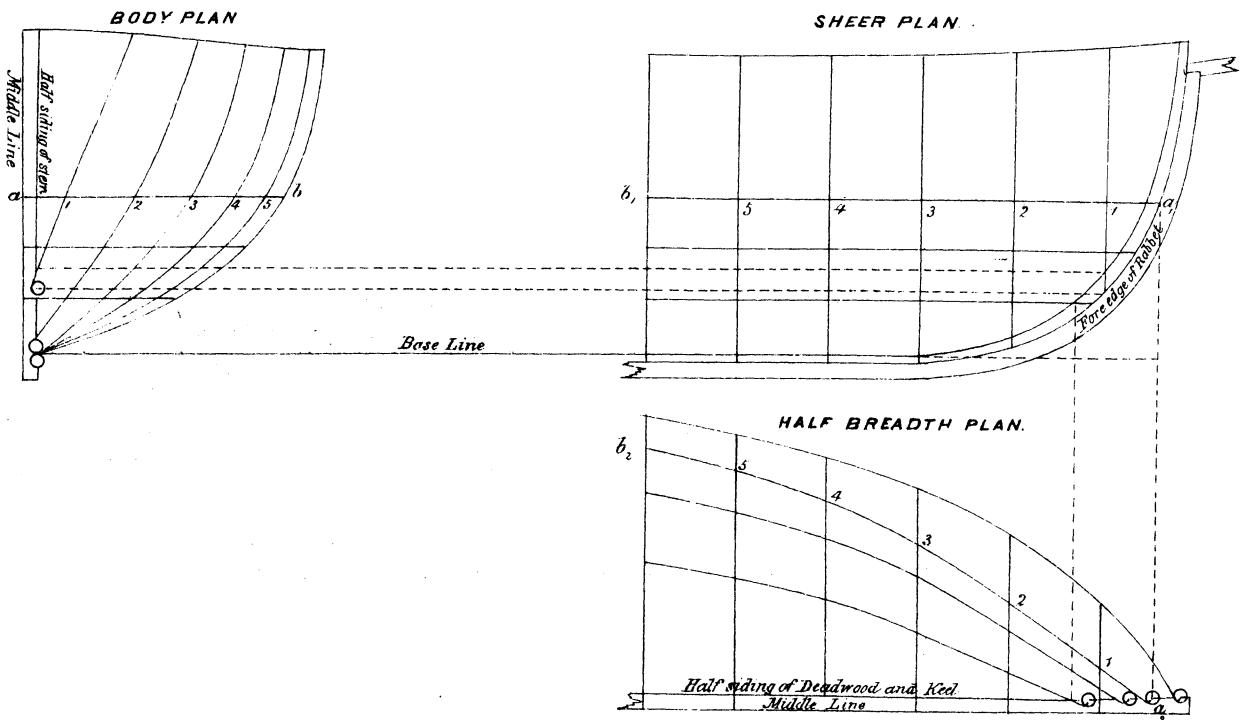


Plate IV

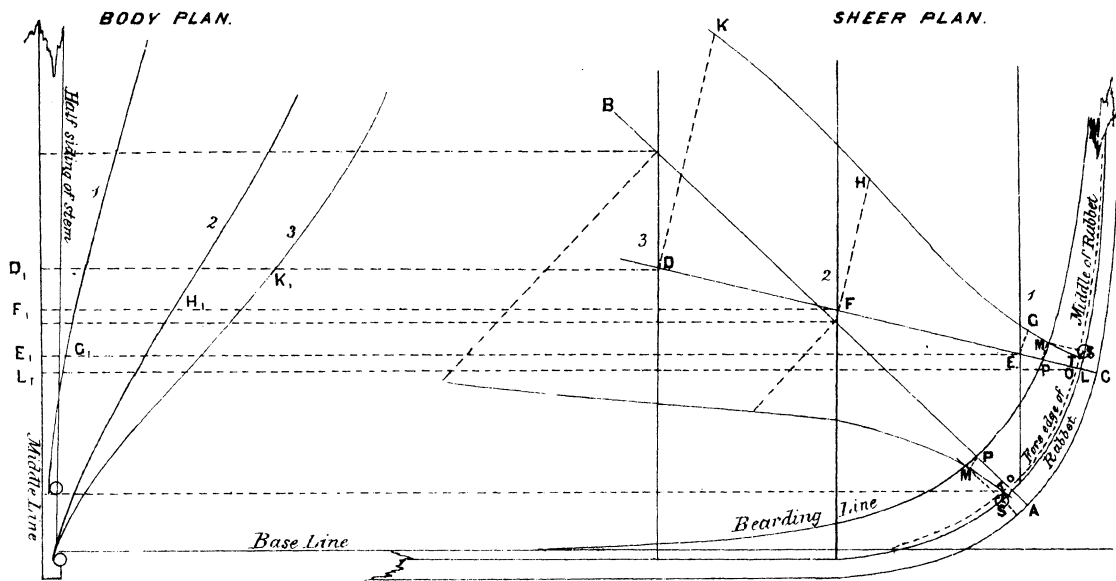


Plate V

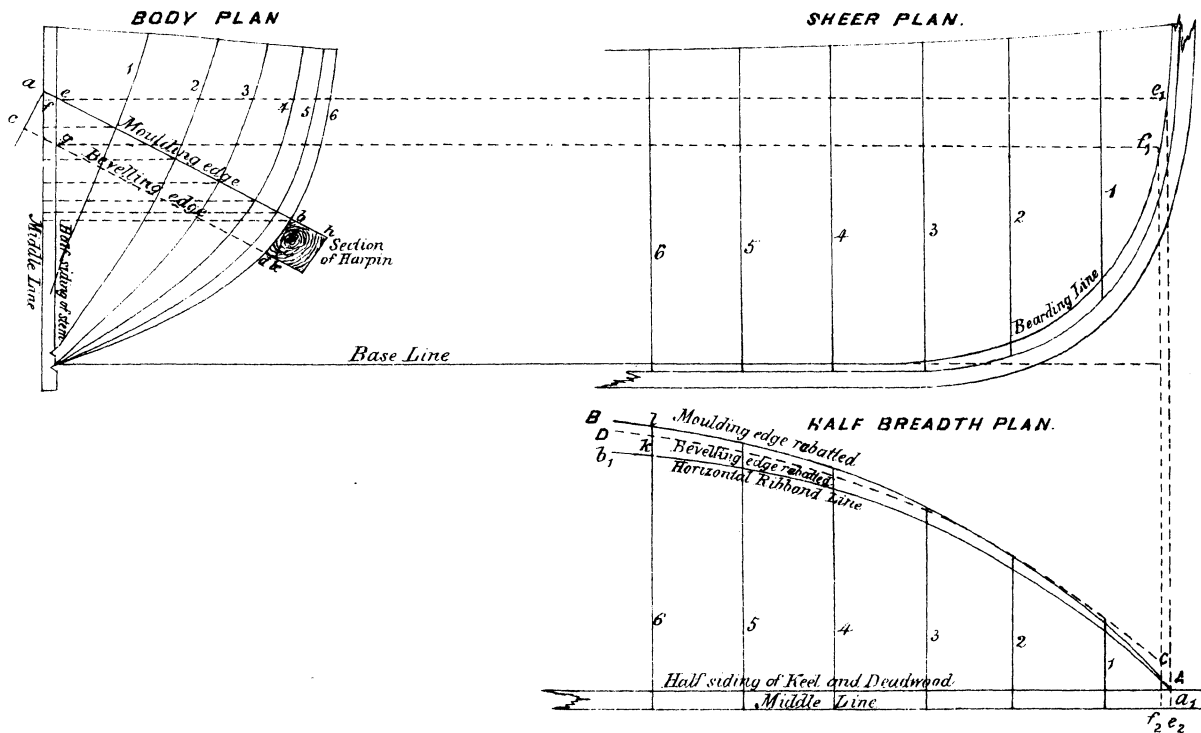


Plate VI

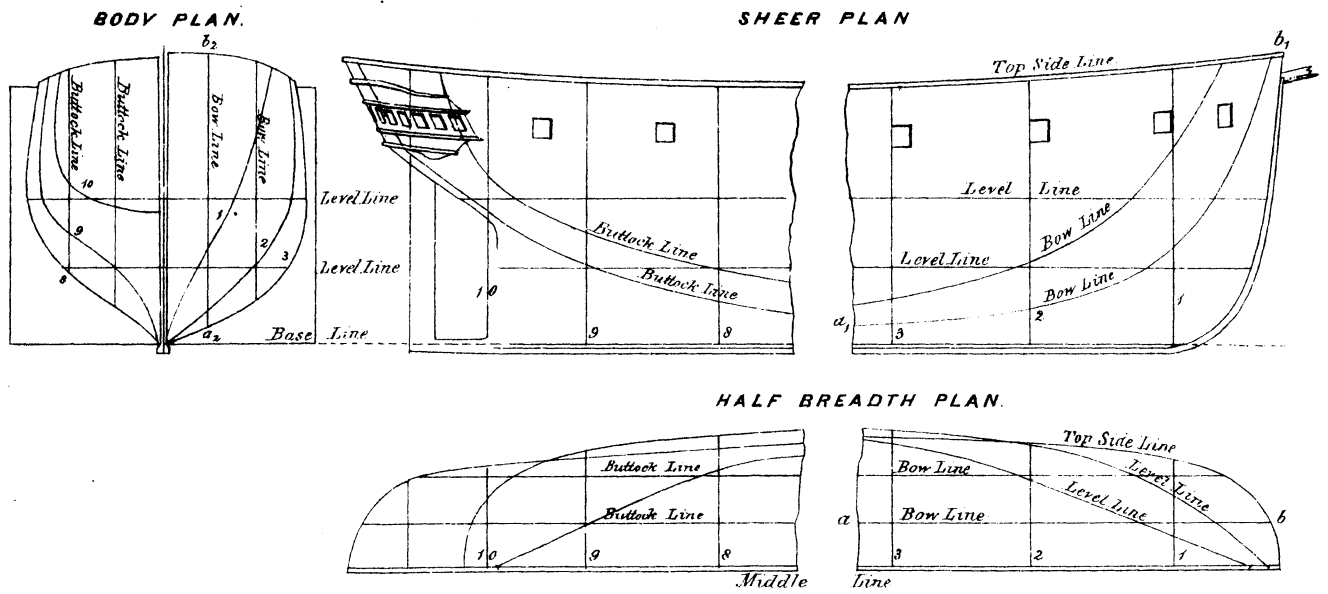


Plate VII

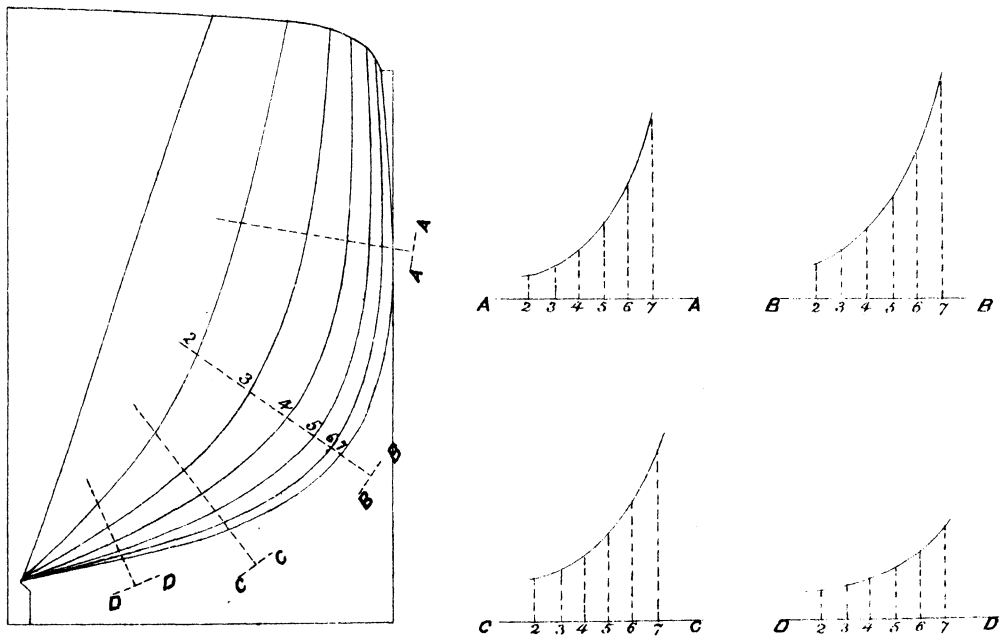


Plate VIII

BODY PLAN.

SHEER PLAN.

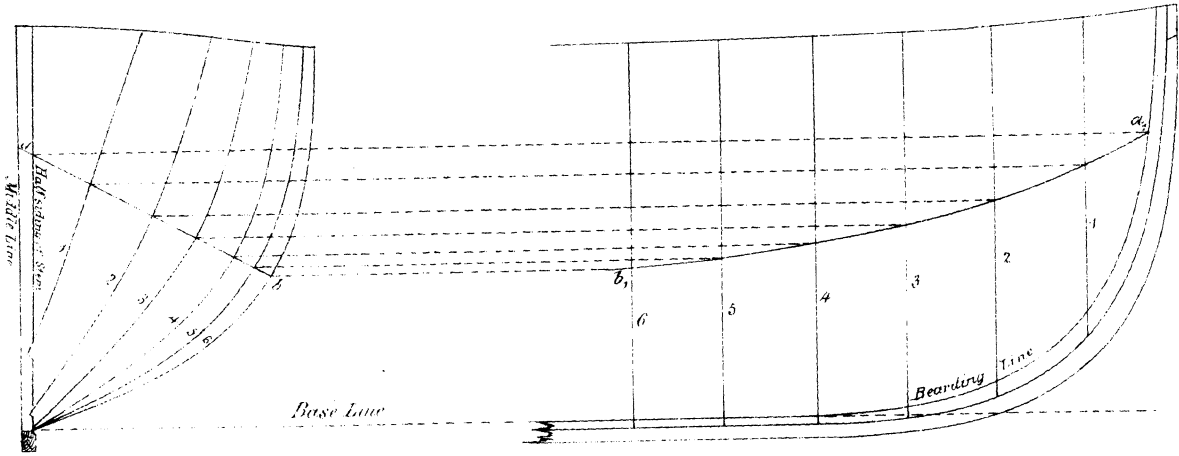
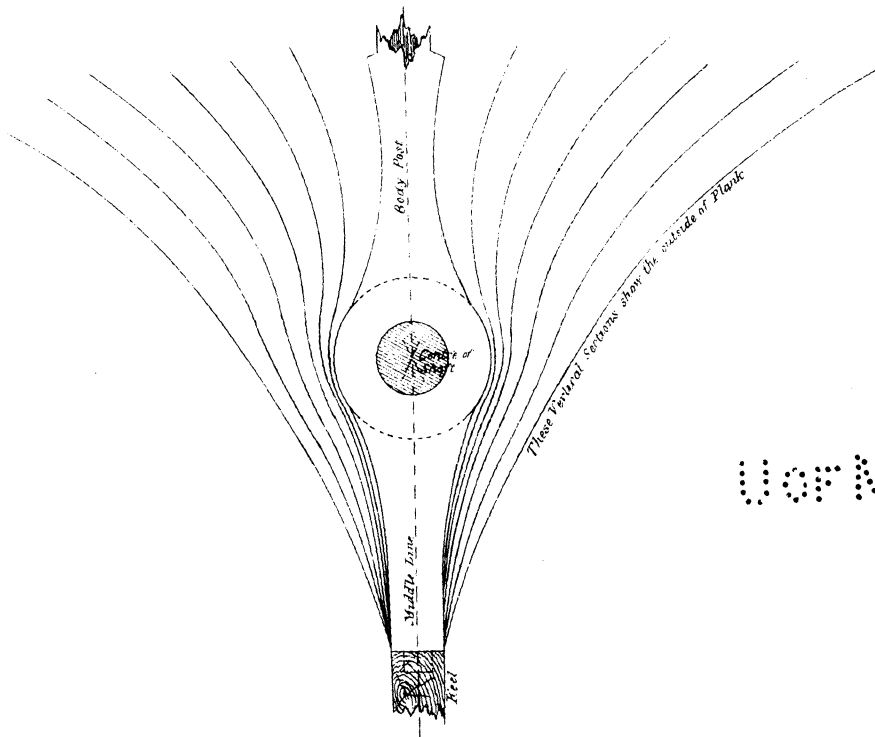


Plate IX

PORTION OF BODY PLAN.



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Plate X

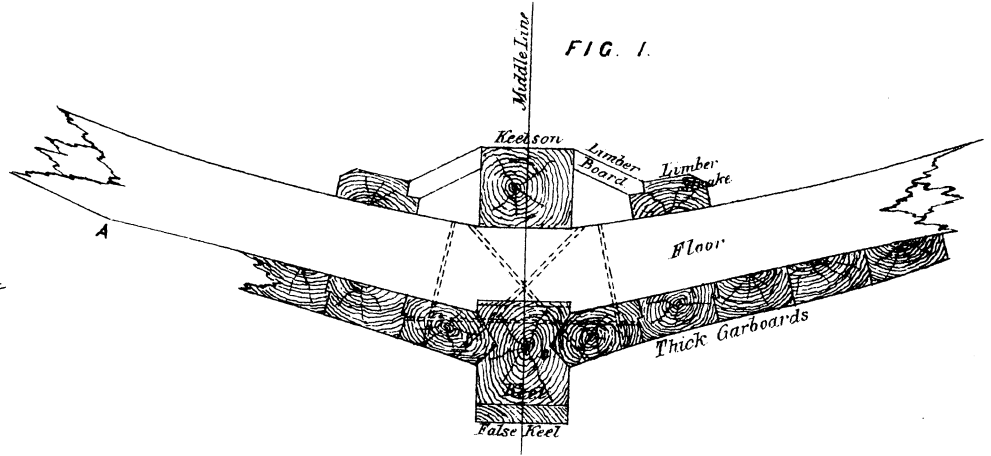
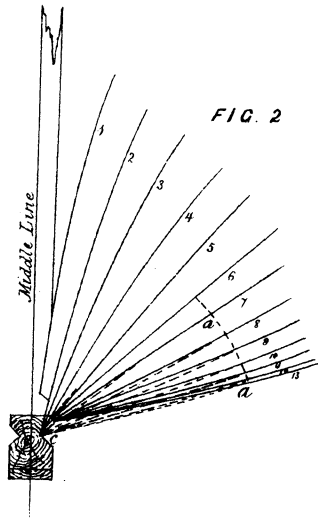


Plate XI

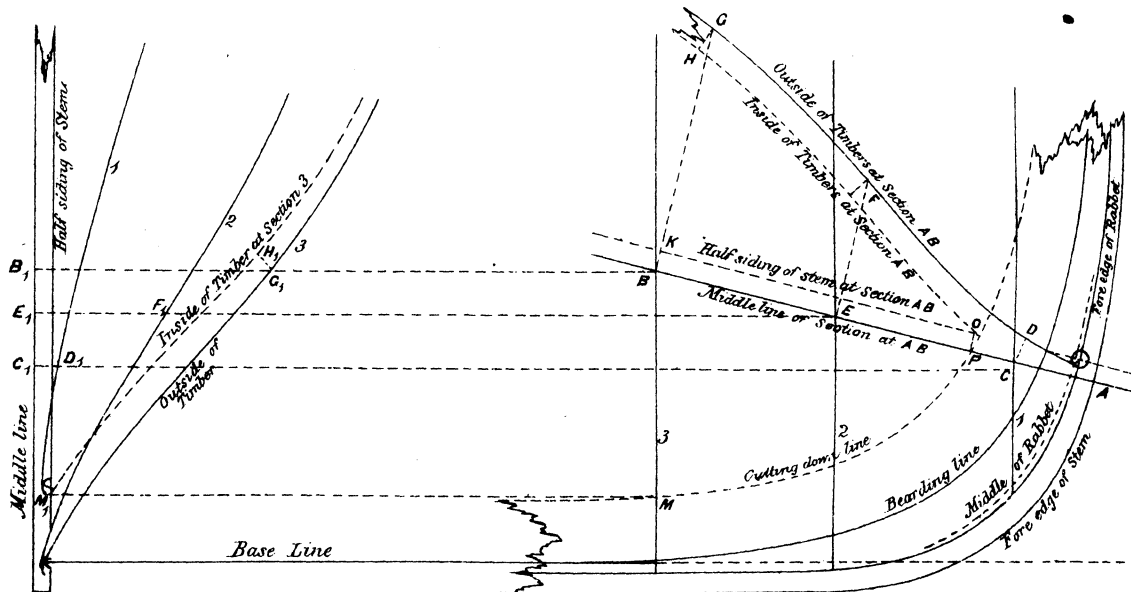


FIG. 1

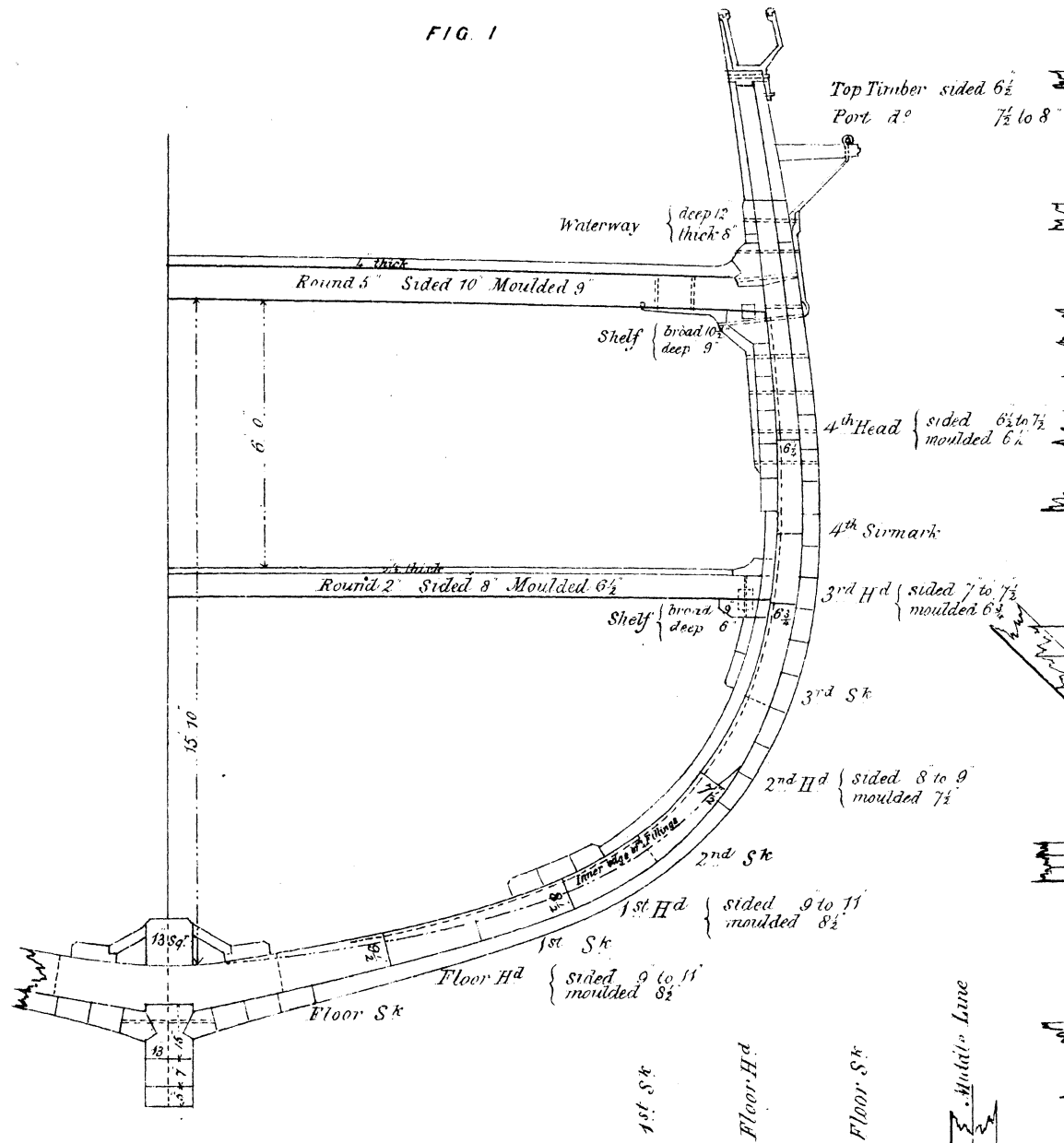


FIG. 3.

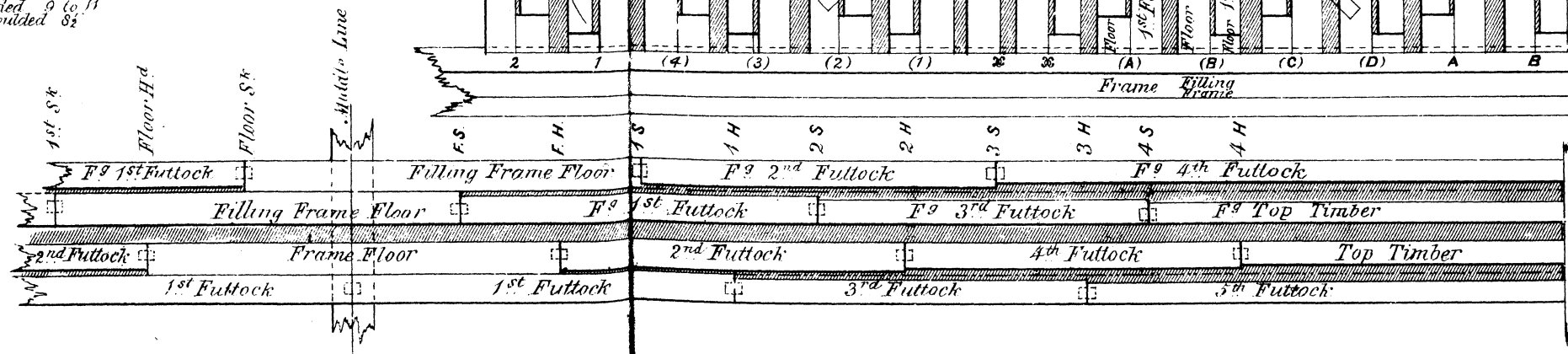
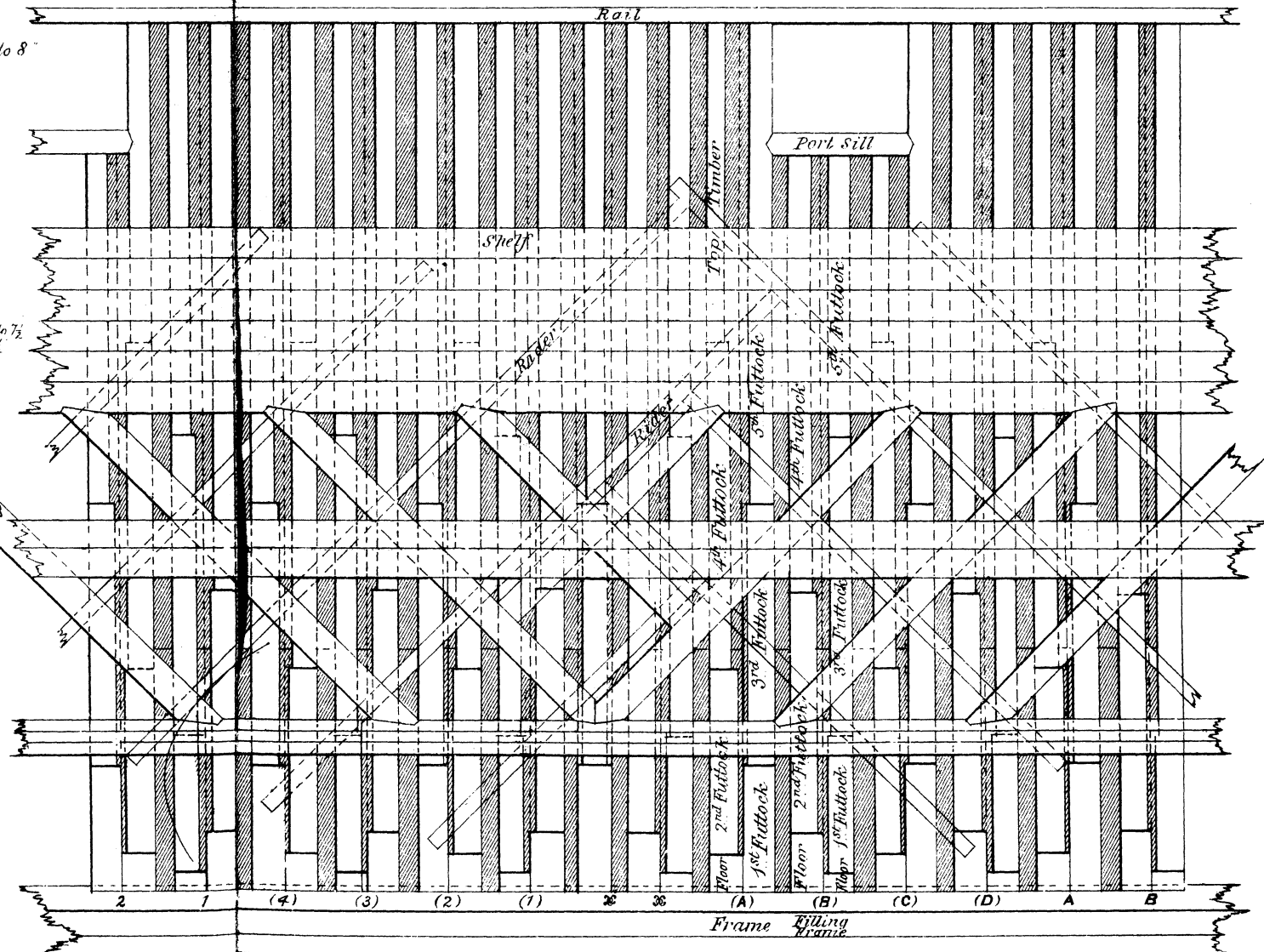


FIG. 2.



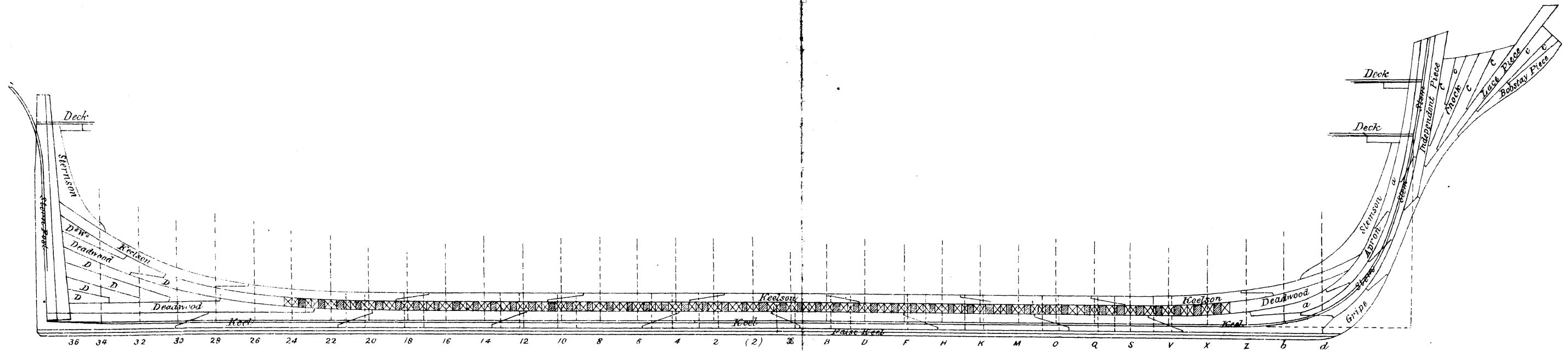


Plate XIV

FIG. 1.
KEEL BATTEN OR ROOM & SPACE BATTEN.

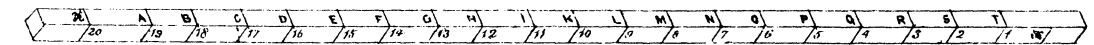


FIG. 4.

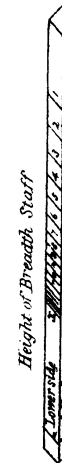


FIG. 2.

RIBBAND BATTEN OR STATION STAFF.

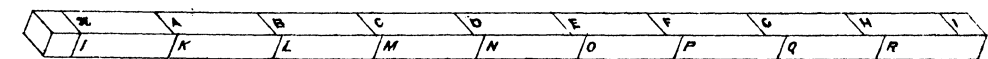


FIG. 3.

HALF BREADTH STAFF.

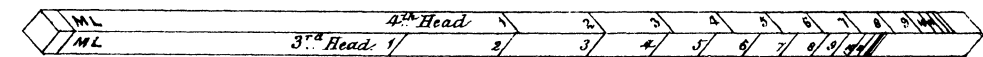


FIG. 5.

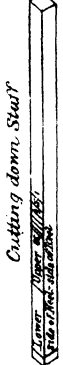


Plate XVII

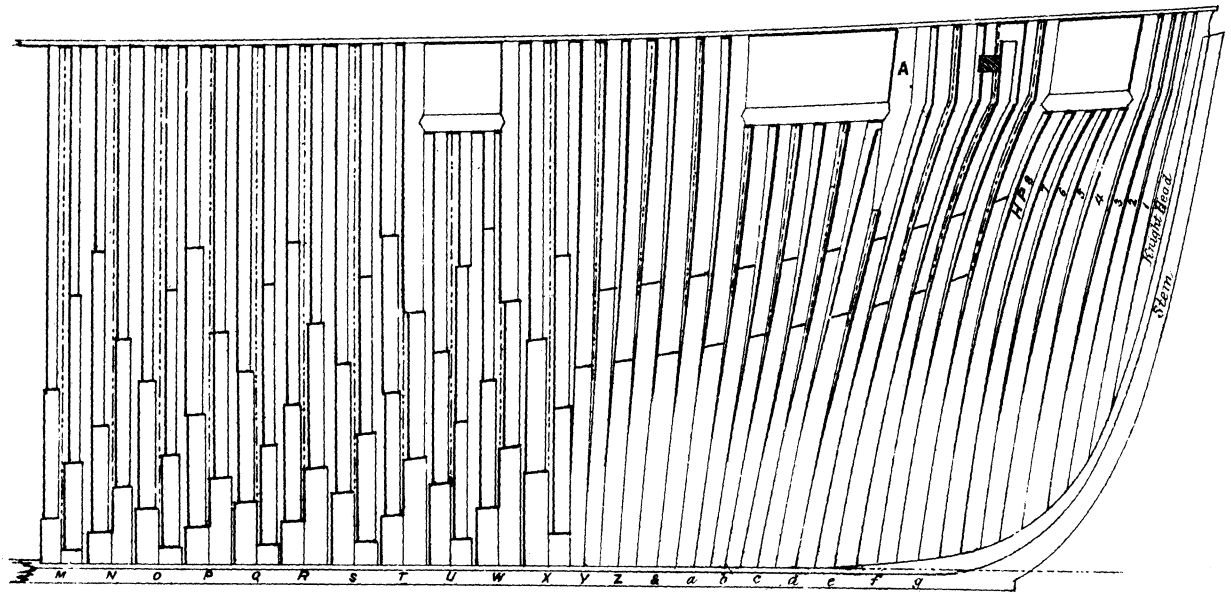
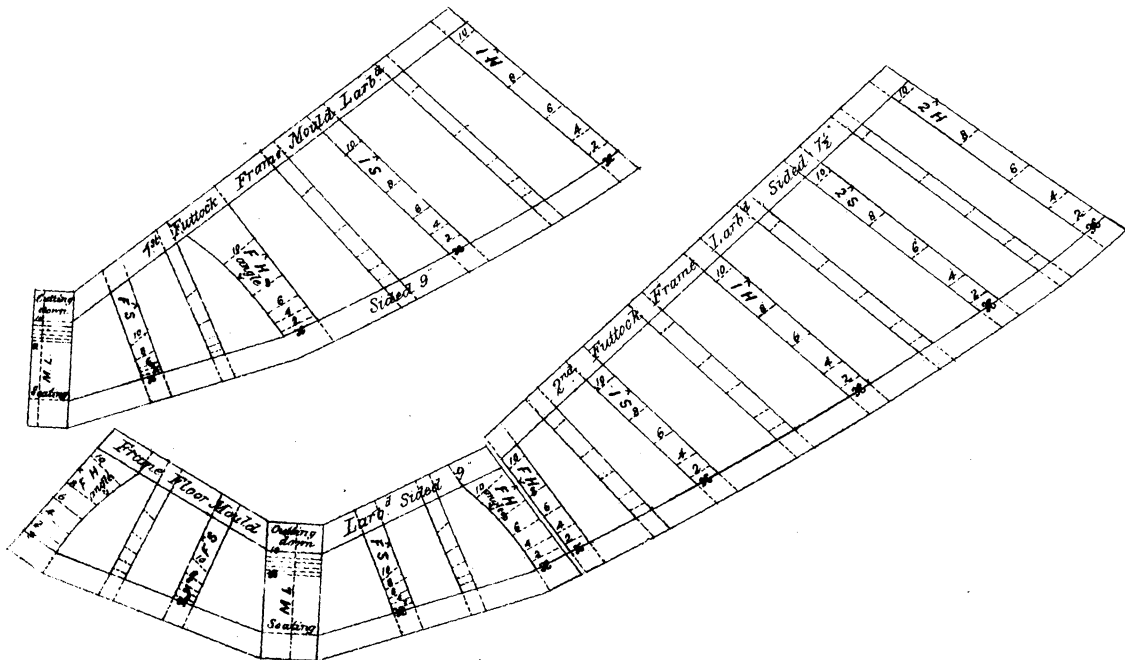


Plate XVIII



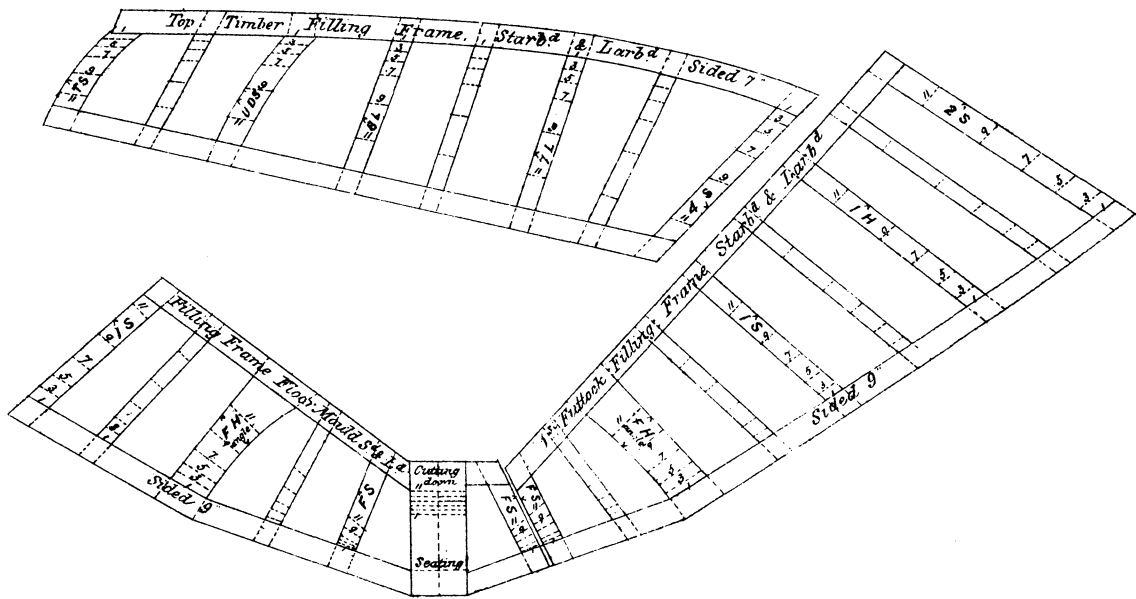


Plate XIX

FIG 1
BODY PLAN.

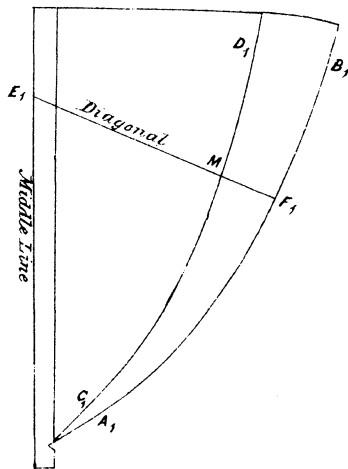


FIG. 2.
HALF BREADTH PLAN.

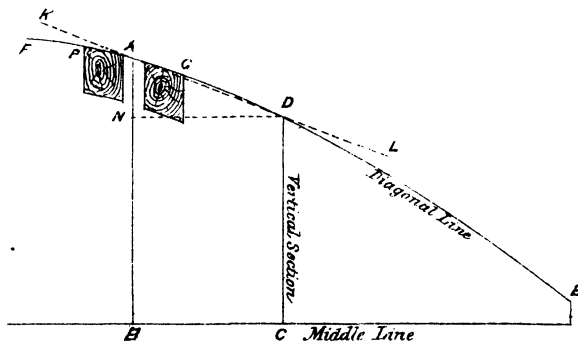


Plate XX

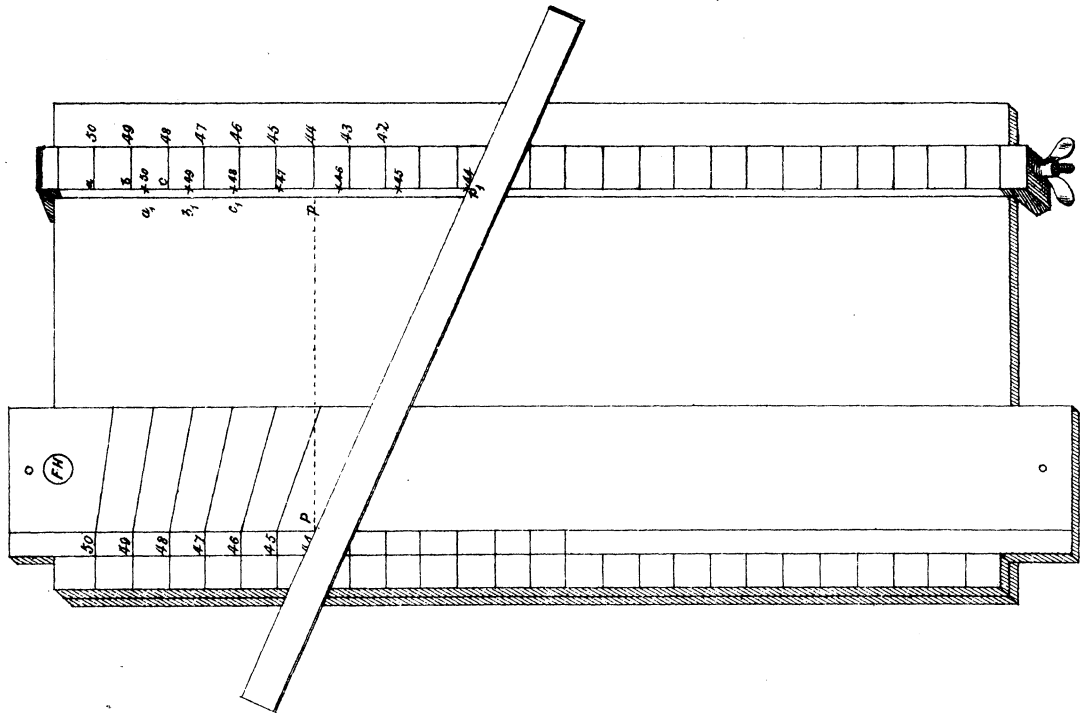


Plate XX A

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HALF BREADTH PLAN.

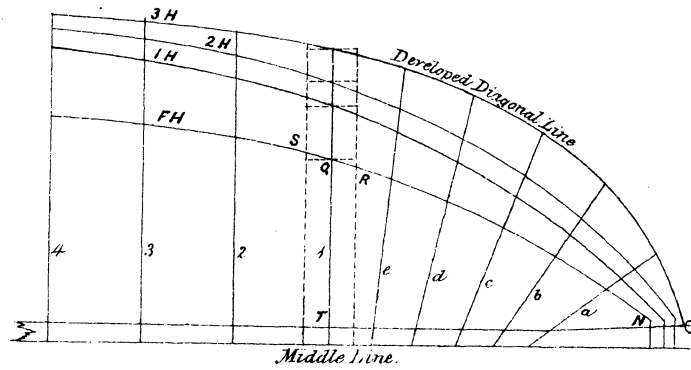


Plate XXII

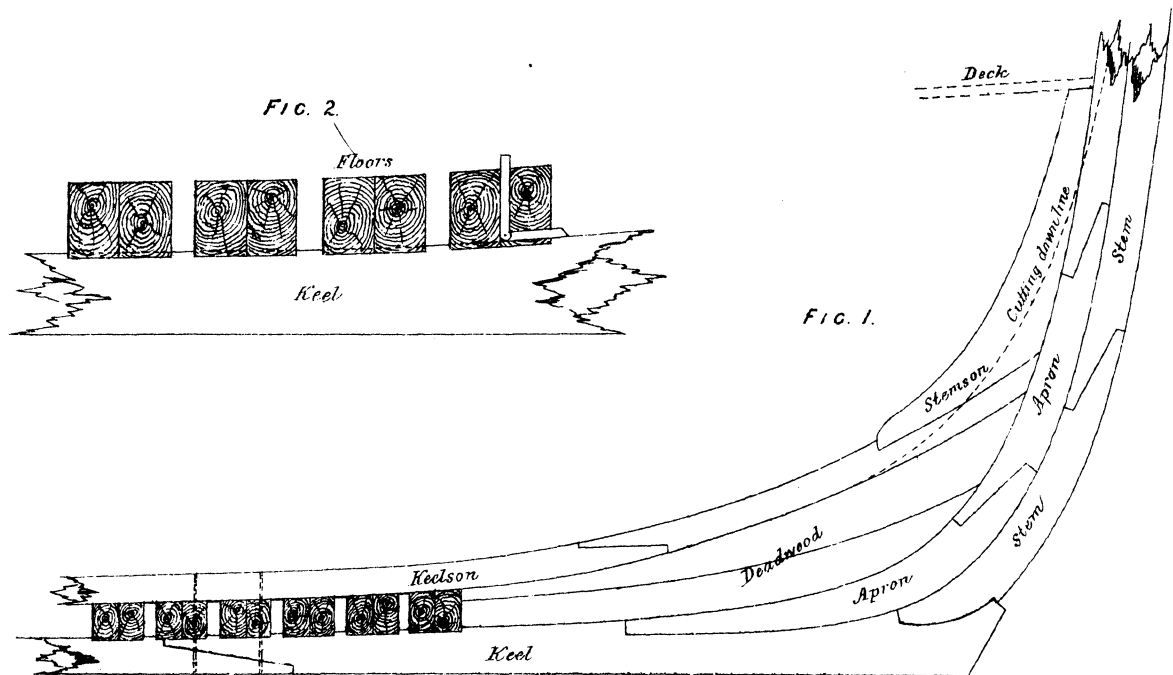


FIG. 1.

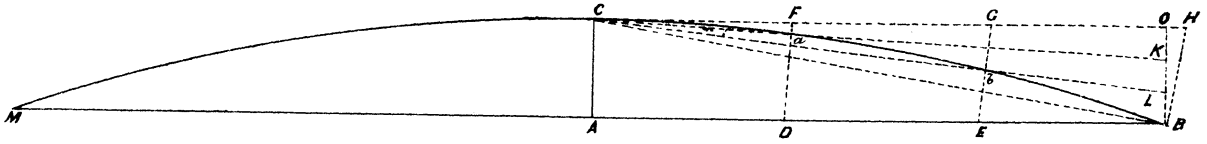


FIG. 2

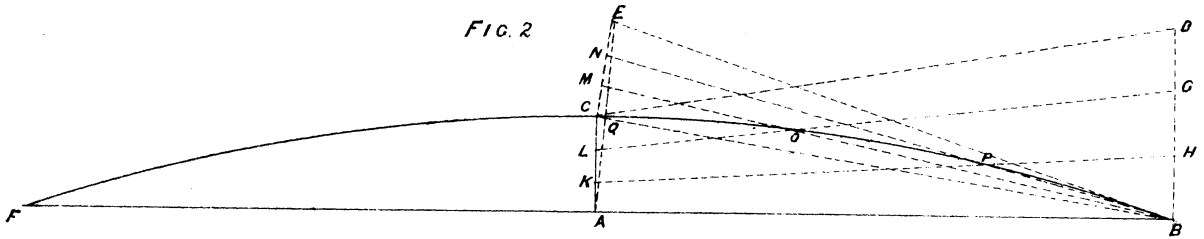


FIG. 3.

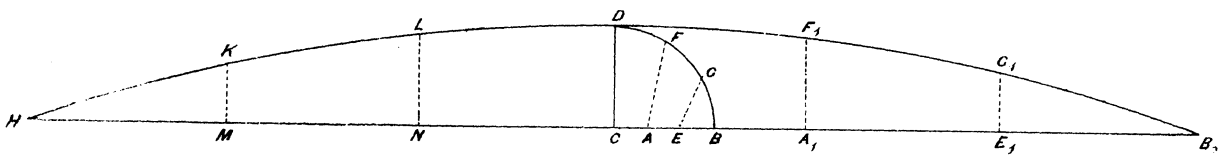


FIG. 2

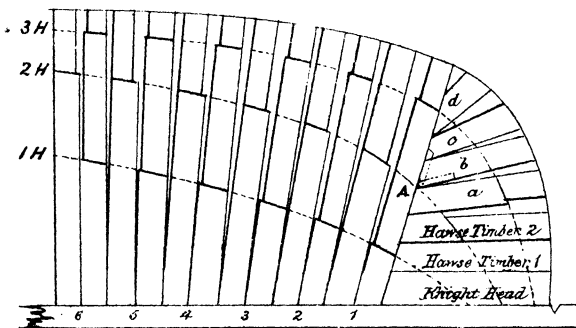
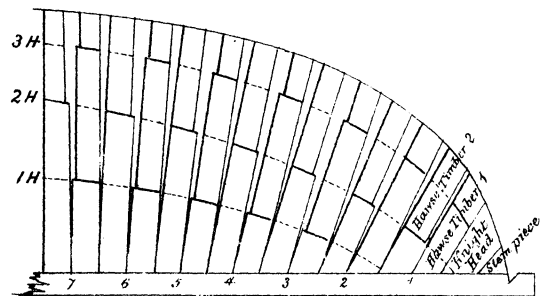


FIG. 1.



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Plate XXVIII

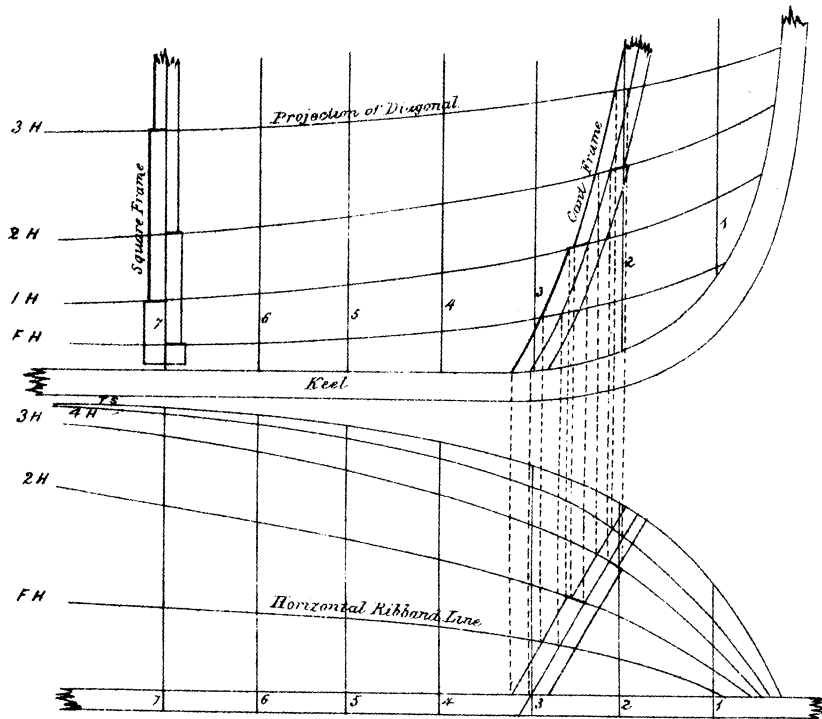
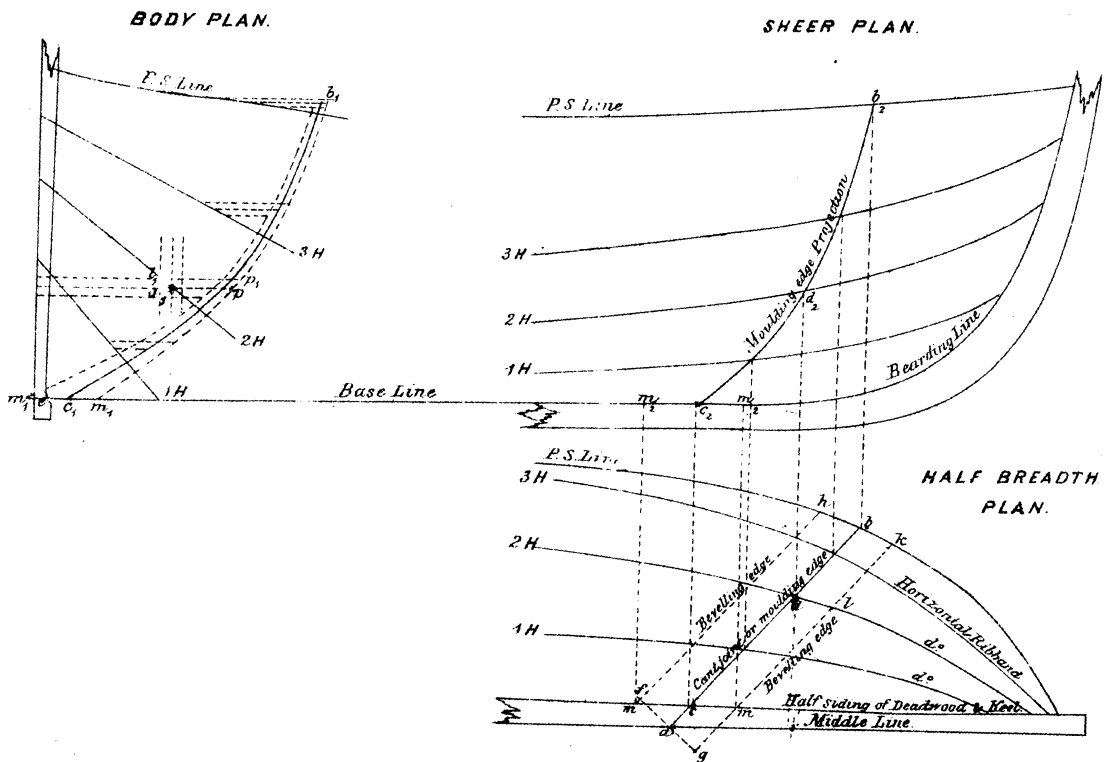
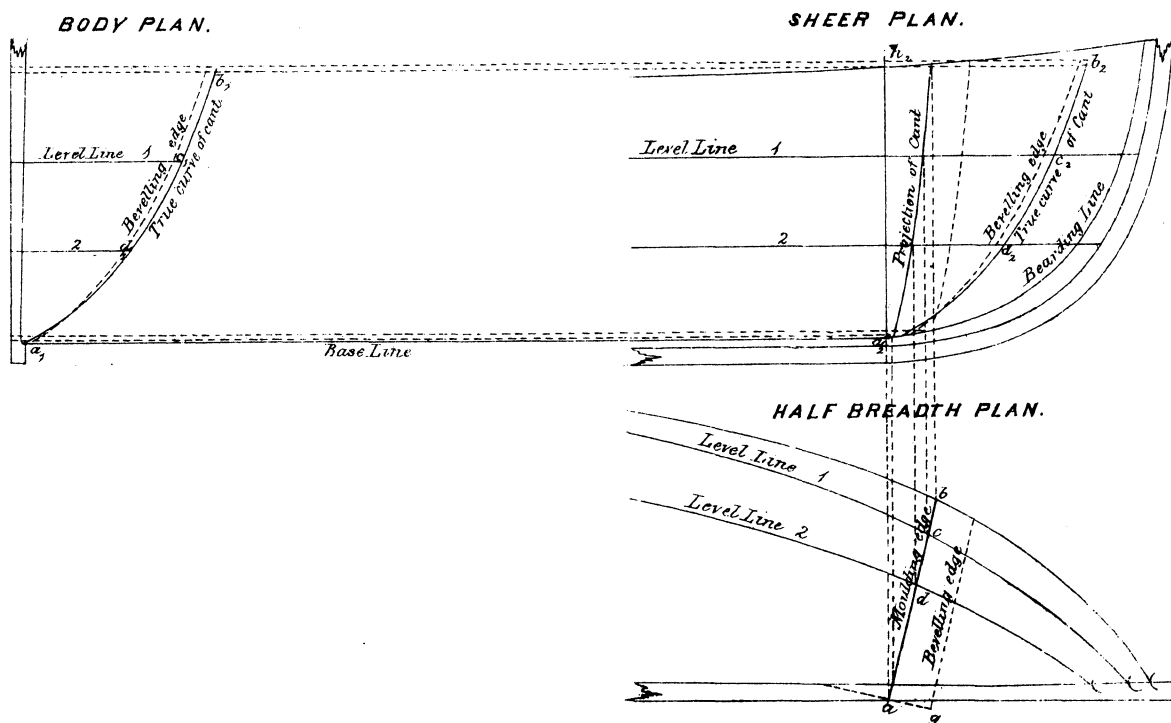
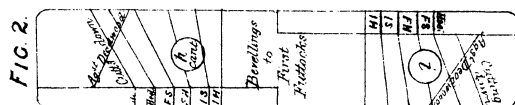
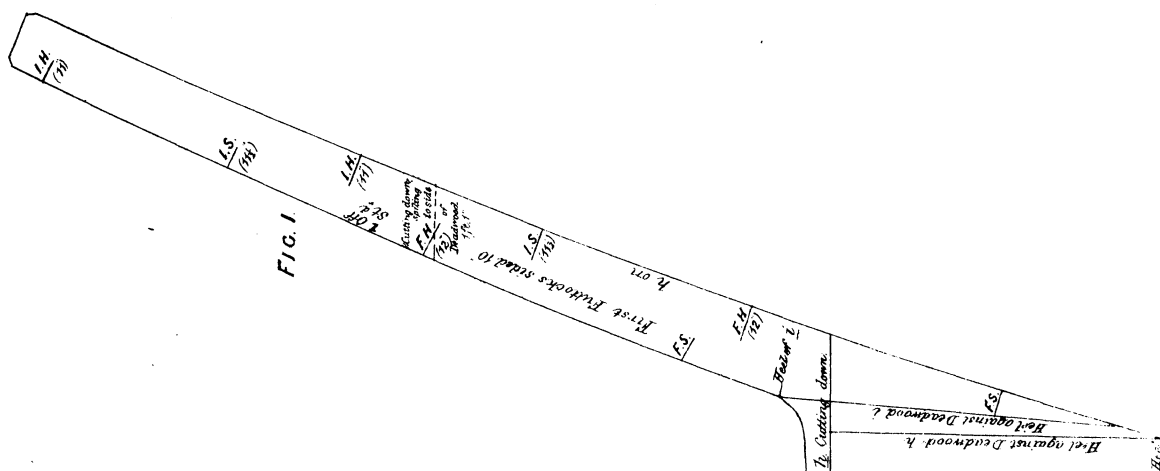


Plate XXIX





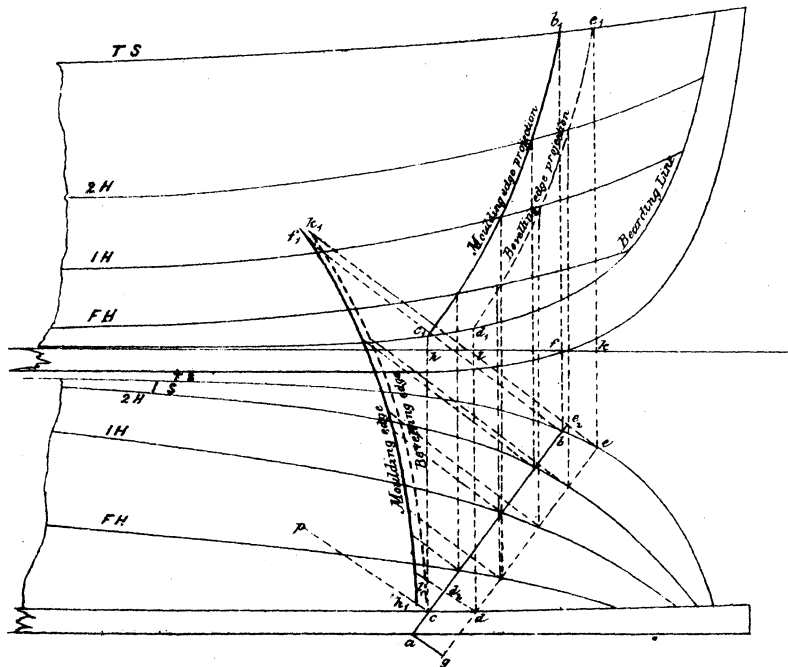
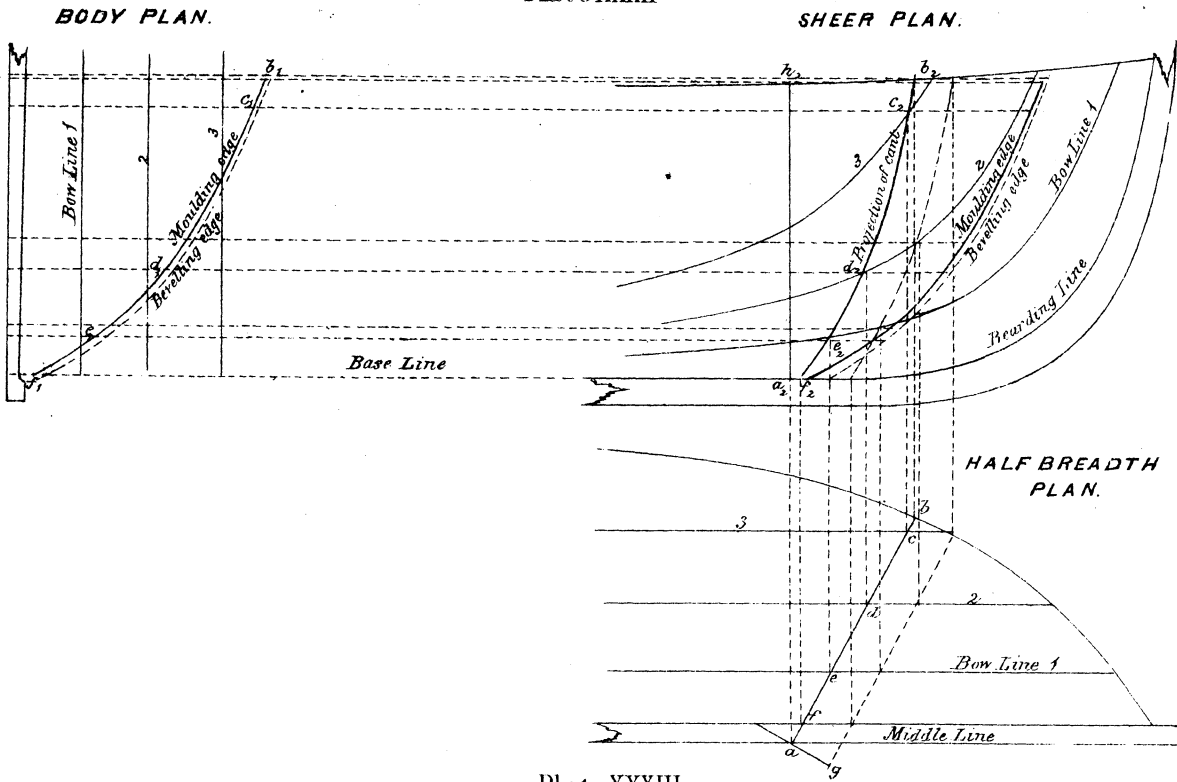


Plate XXXIV

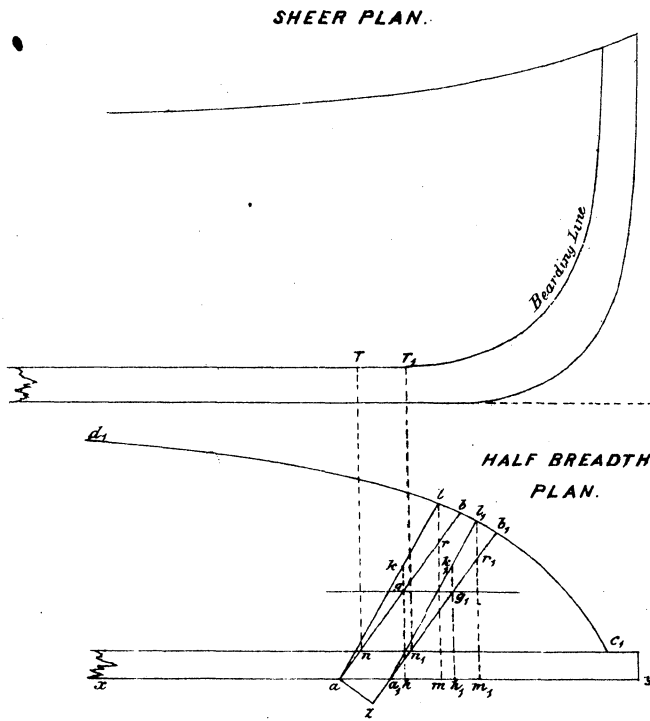
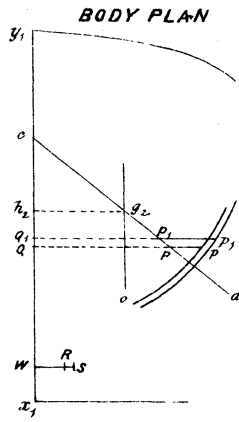
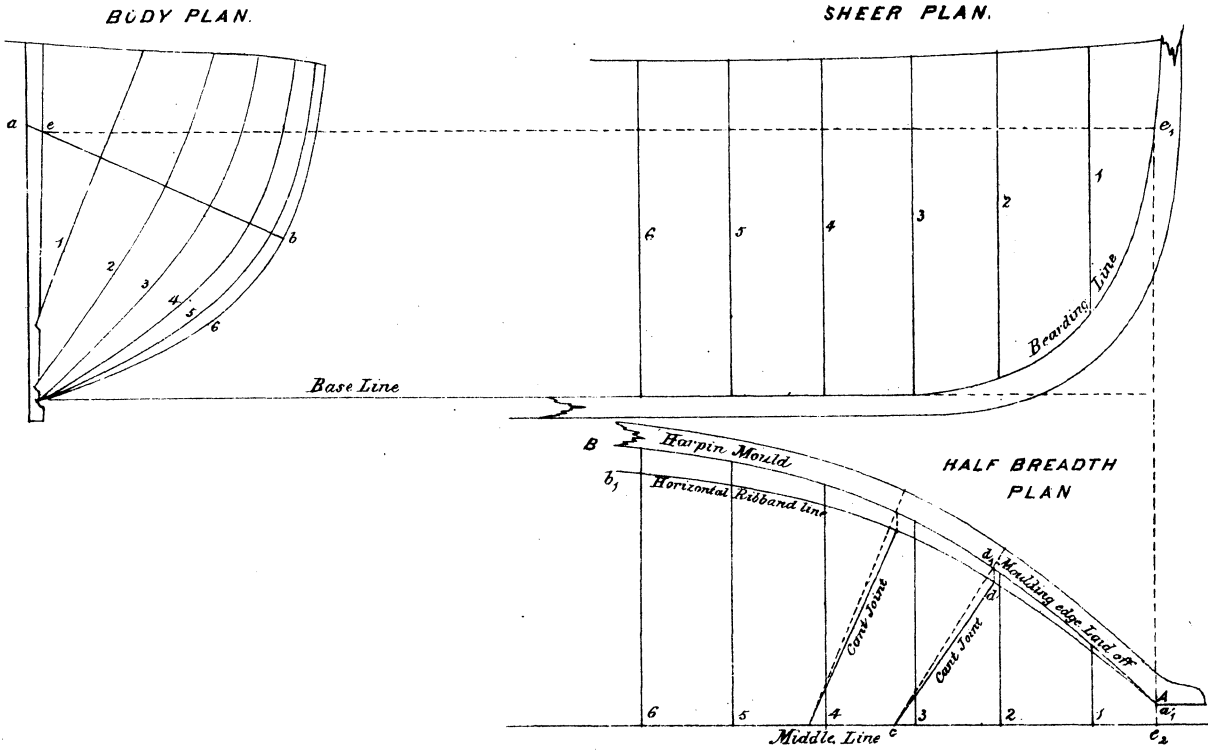
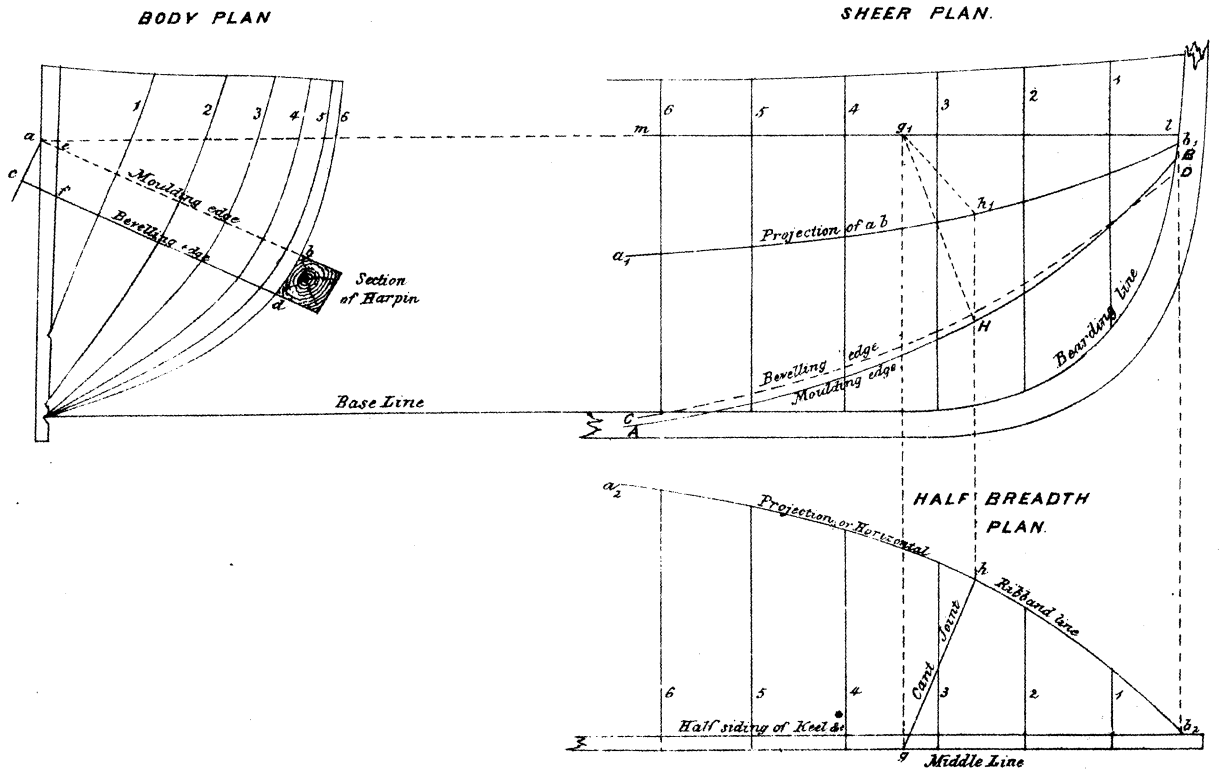
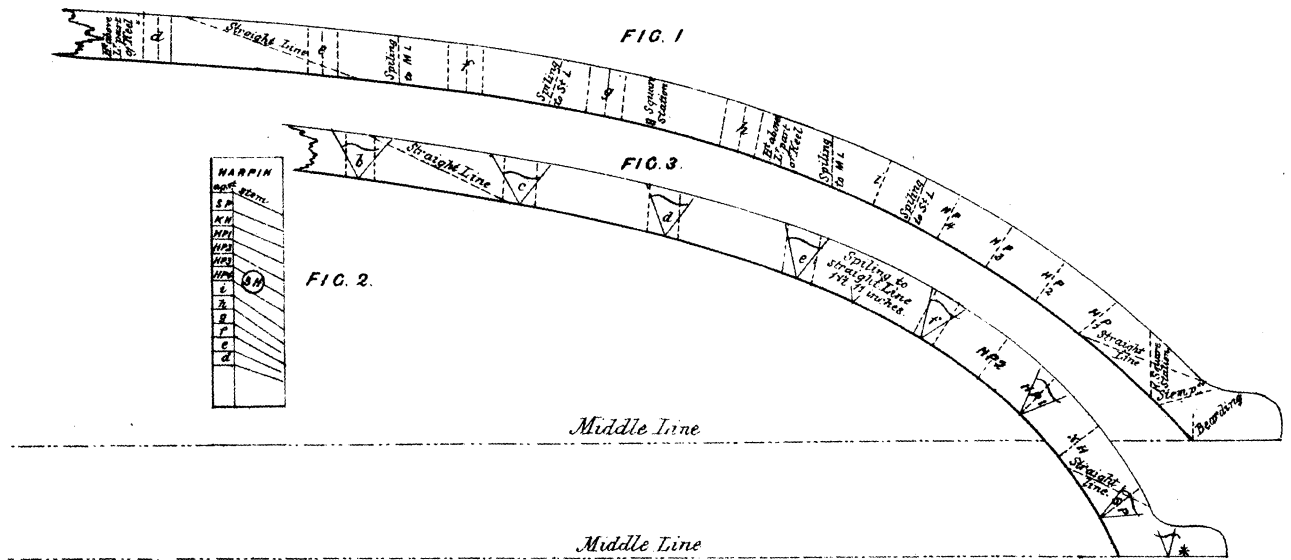


Plate XXXV





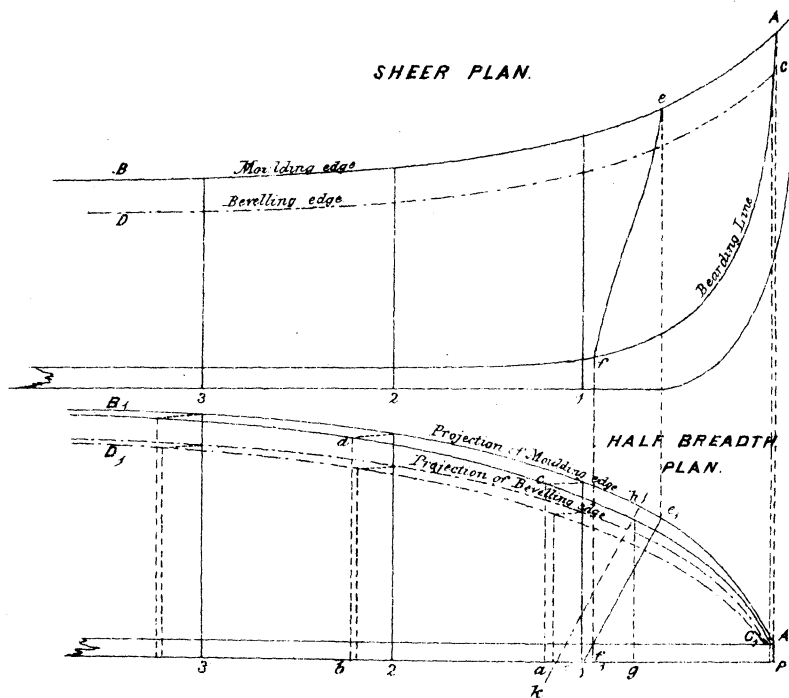


Plate XXXIX

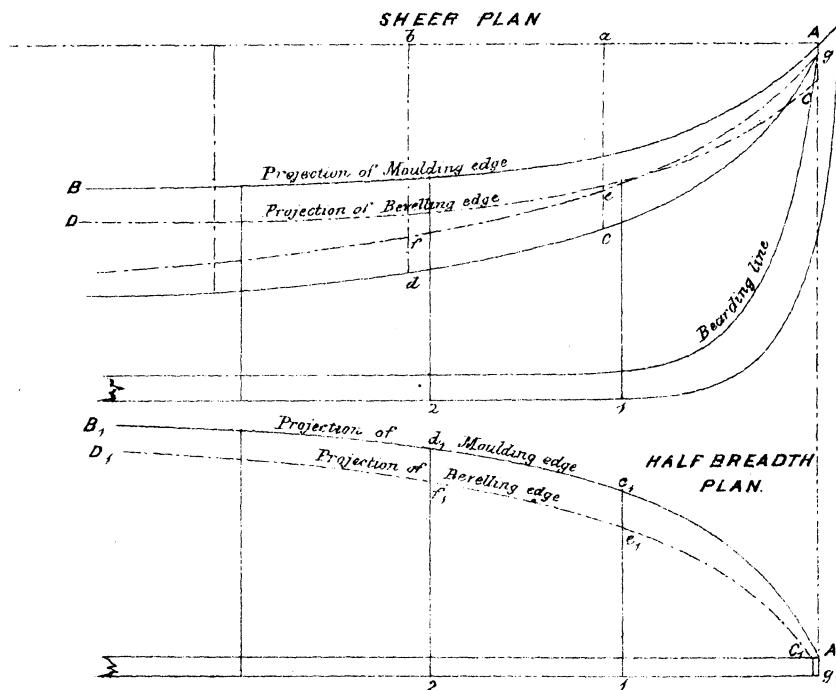




Plate XLI



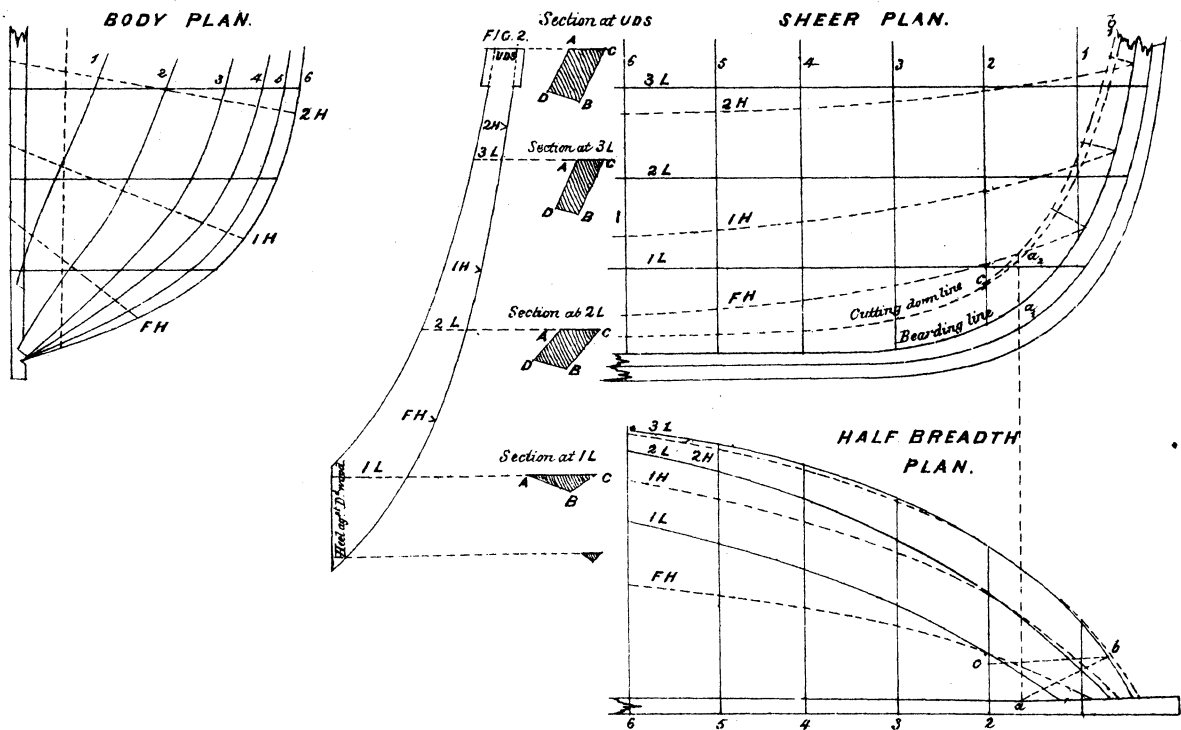
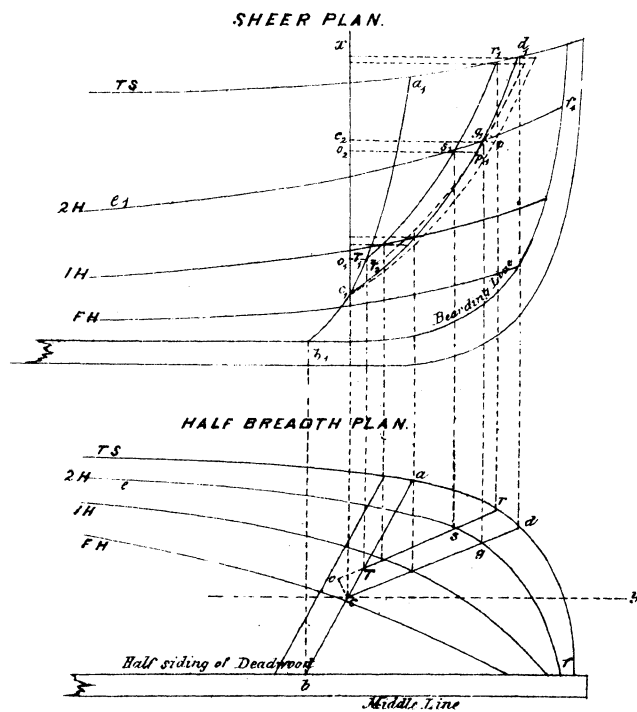


Plate XLIII



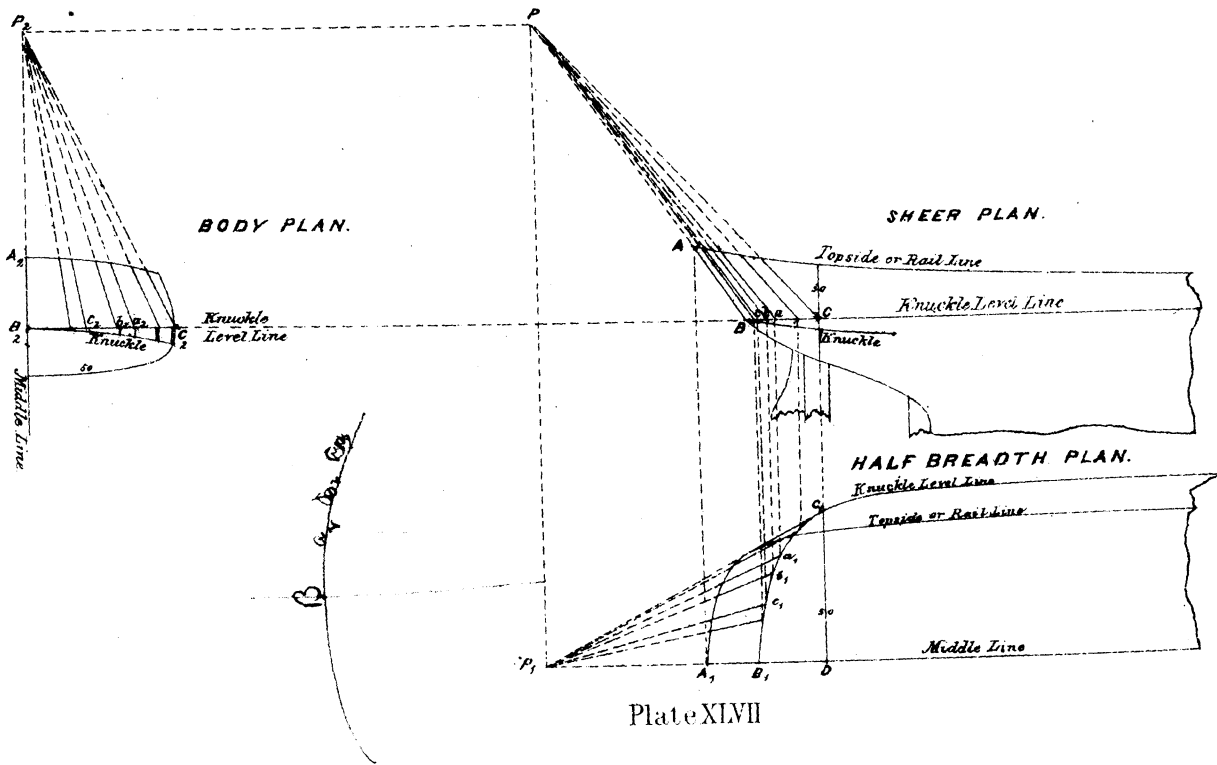
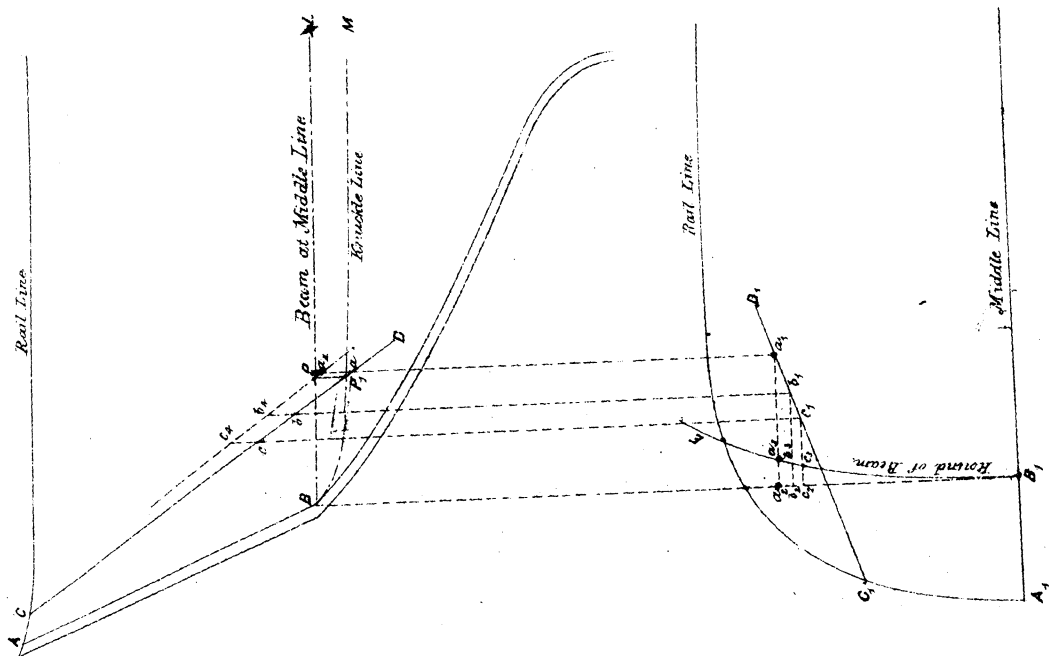


Plate XLVII



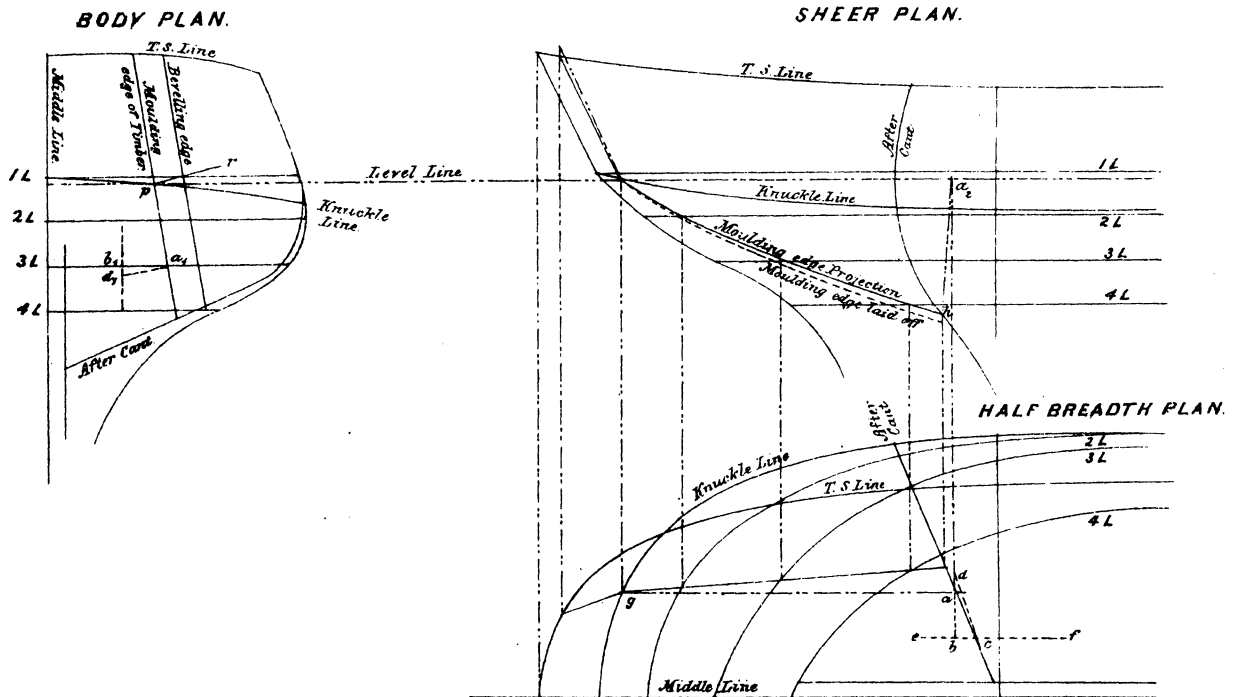
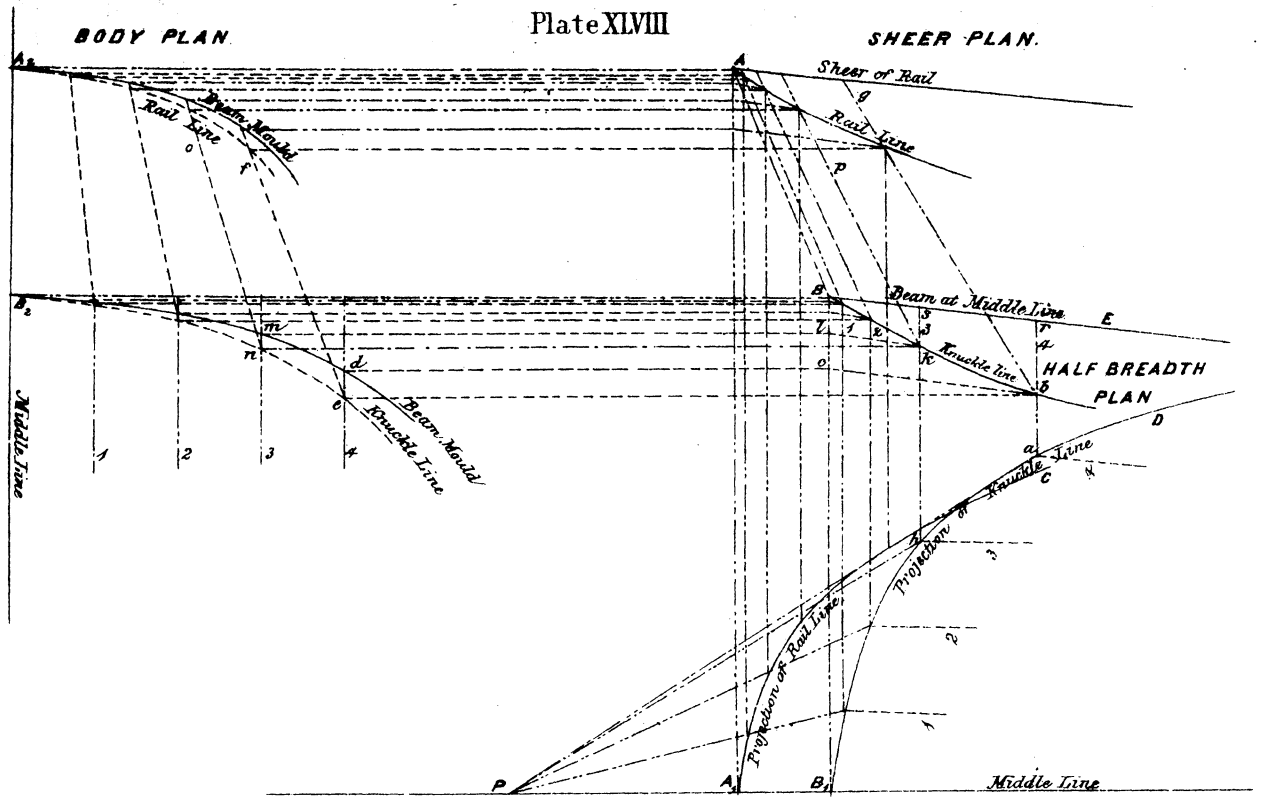
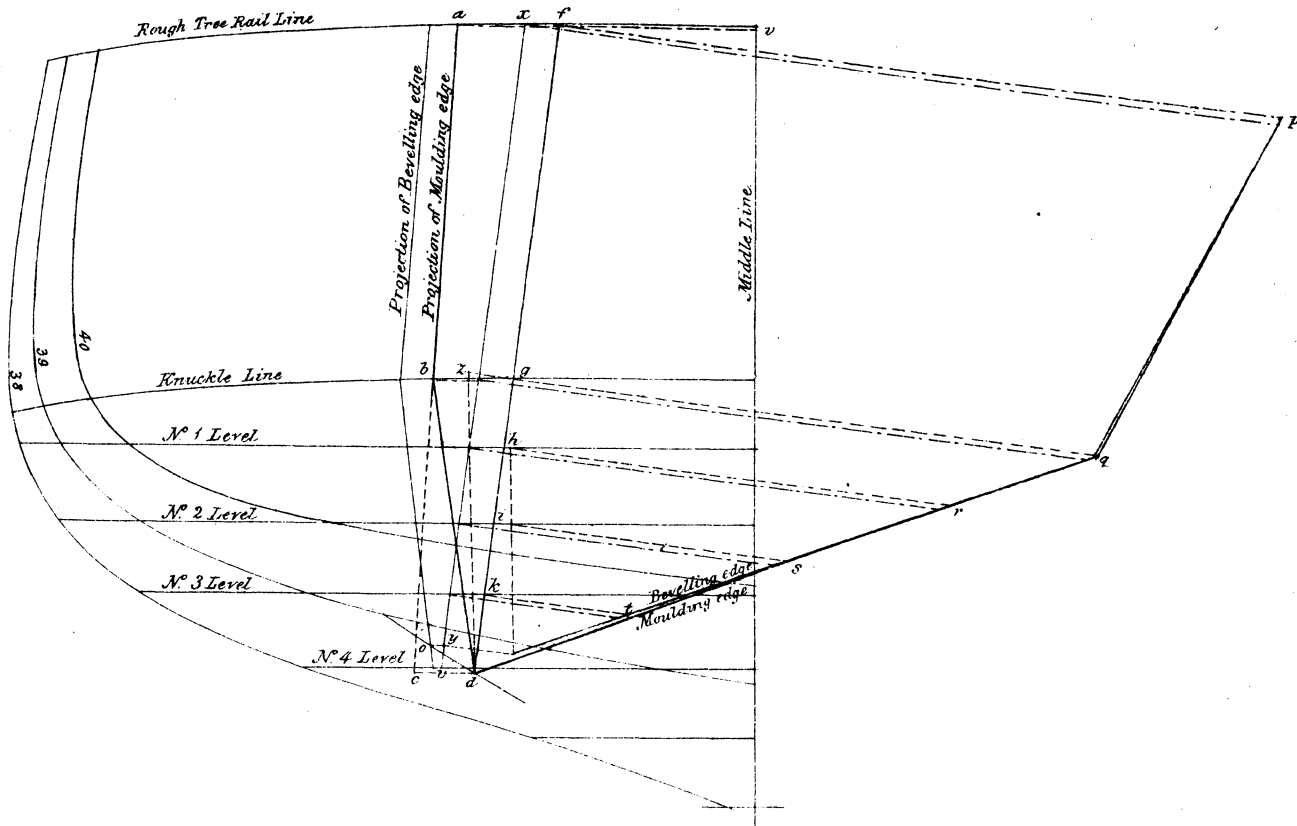
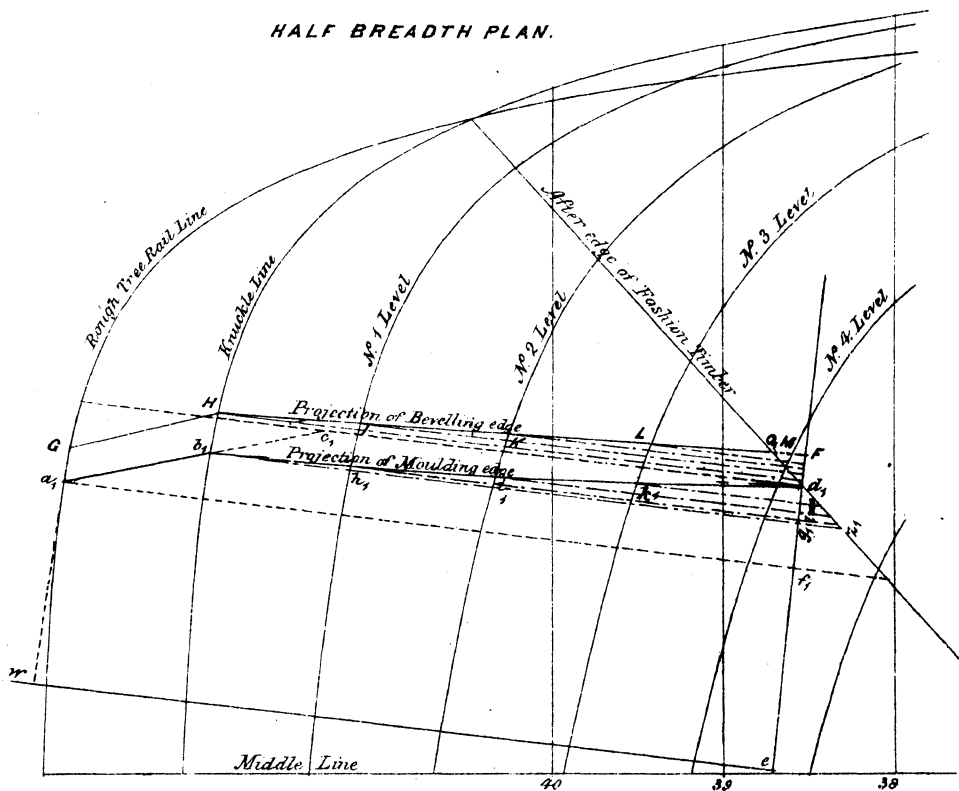


Plate L
BODY PLAN.



HALF BREADTH PLAN.



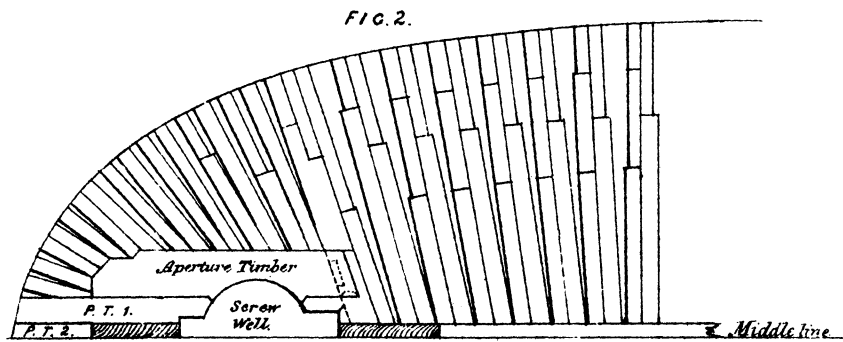
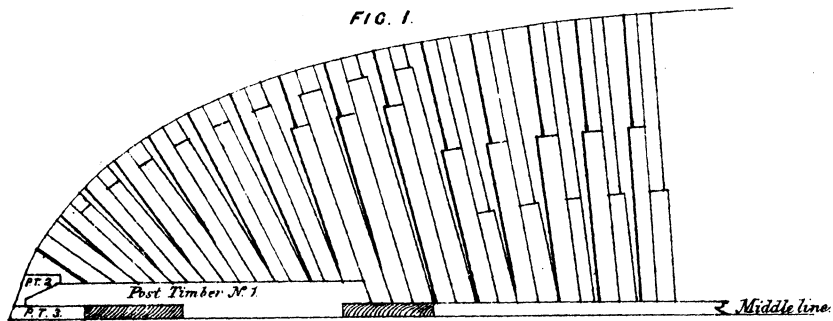
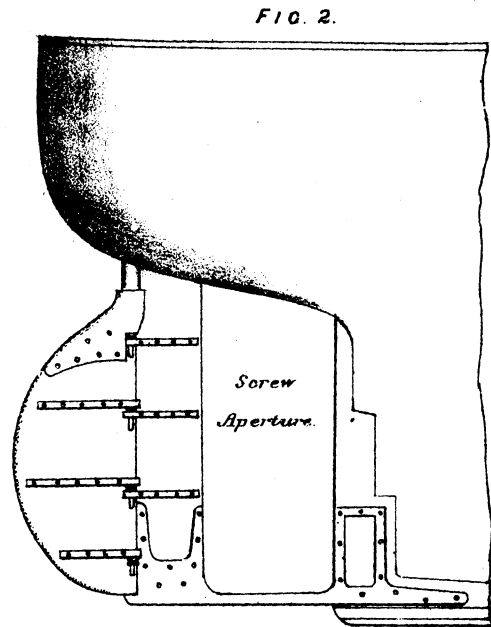
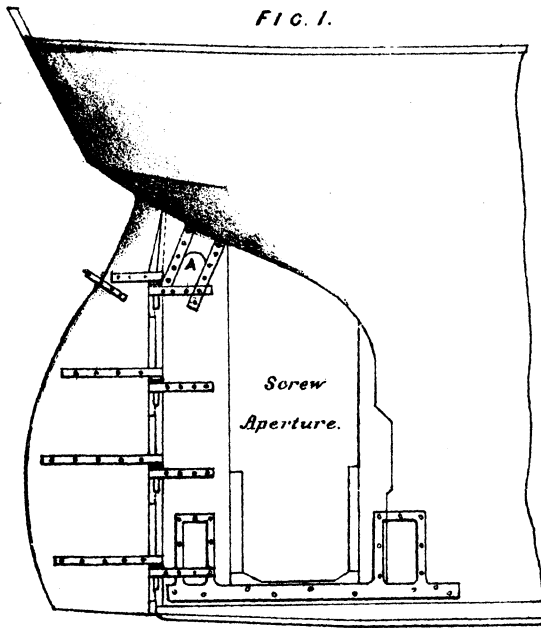


Plate LIV

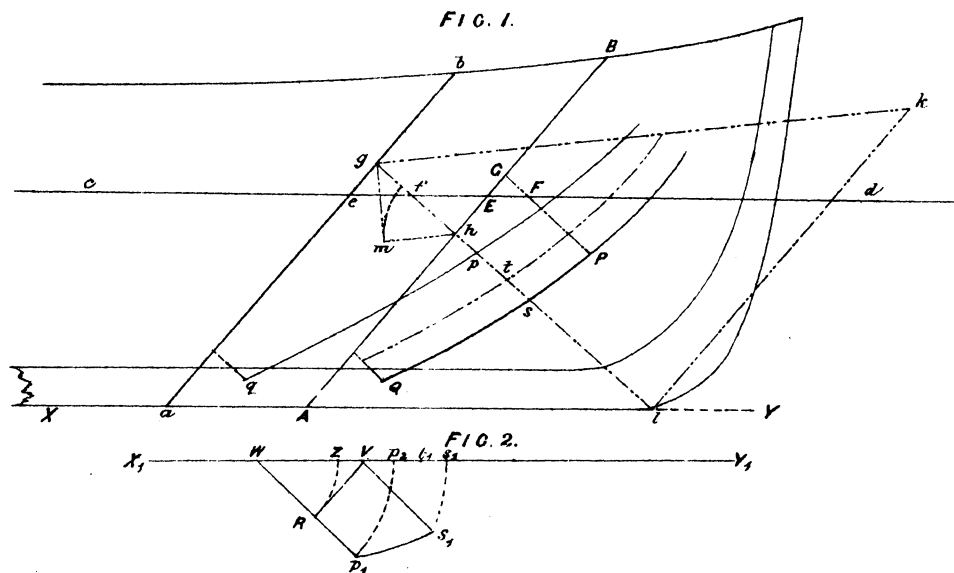
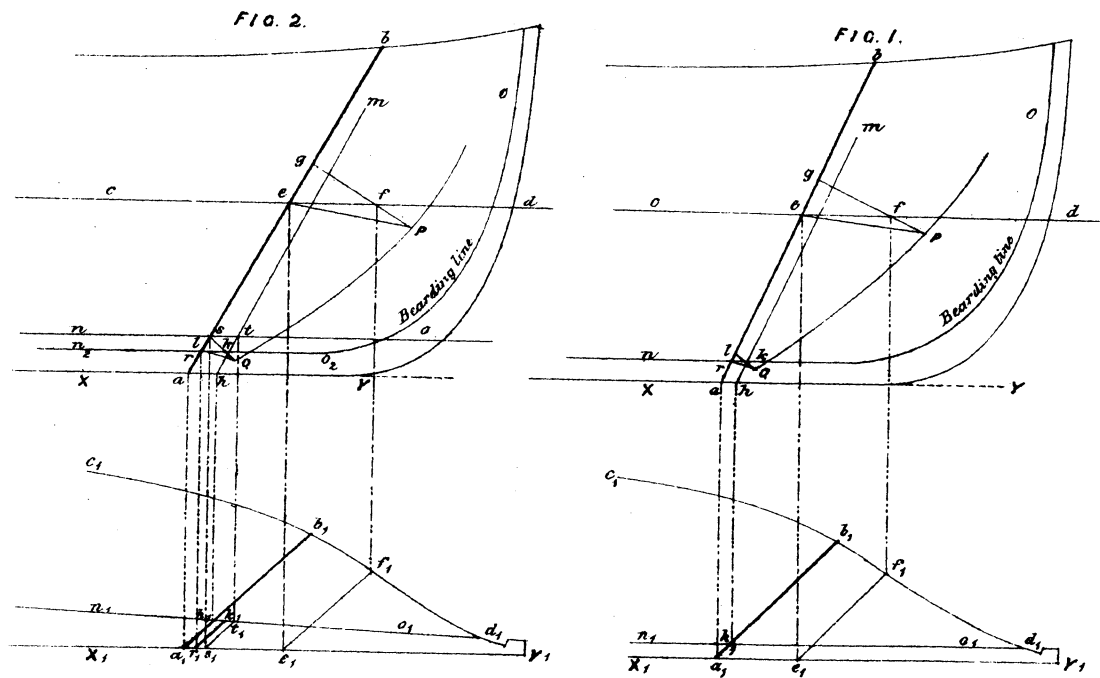


Plate IV

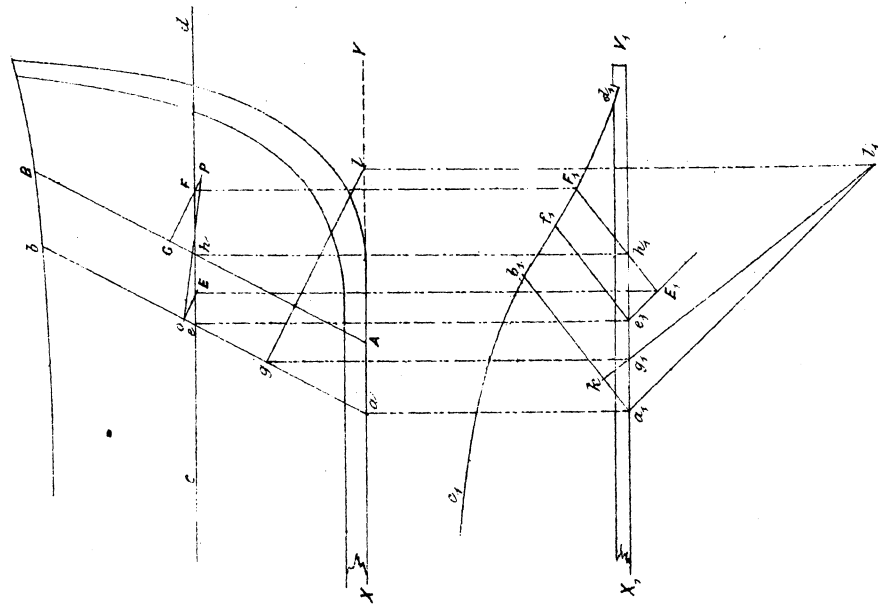


Plate IVI

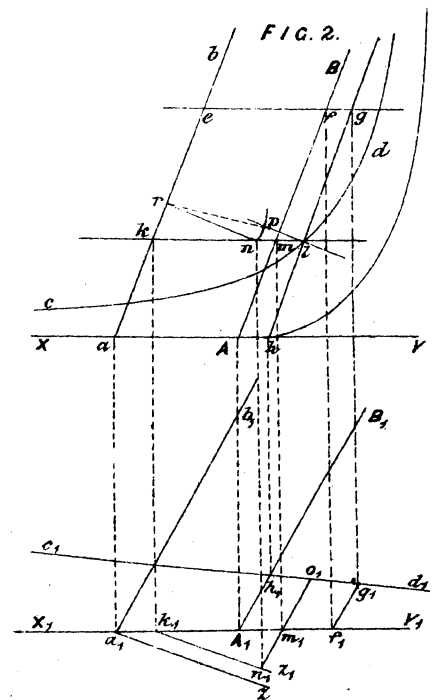
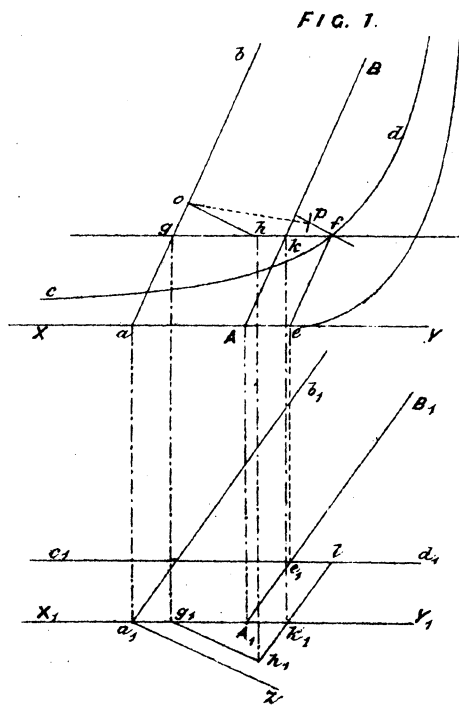


Plate LVII

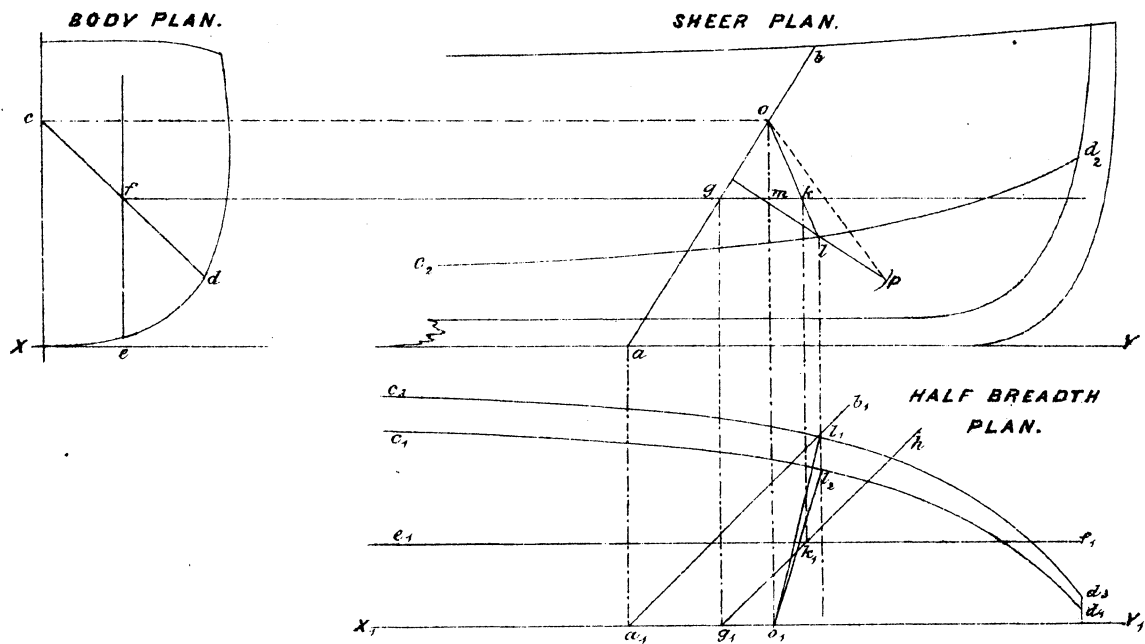


Plate LVIII

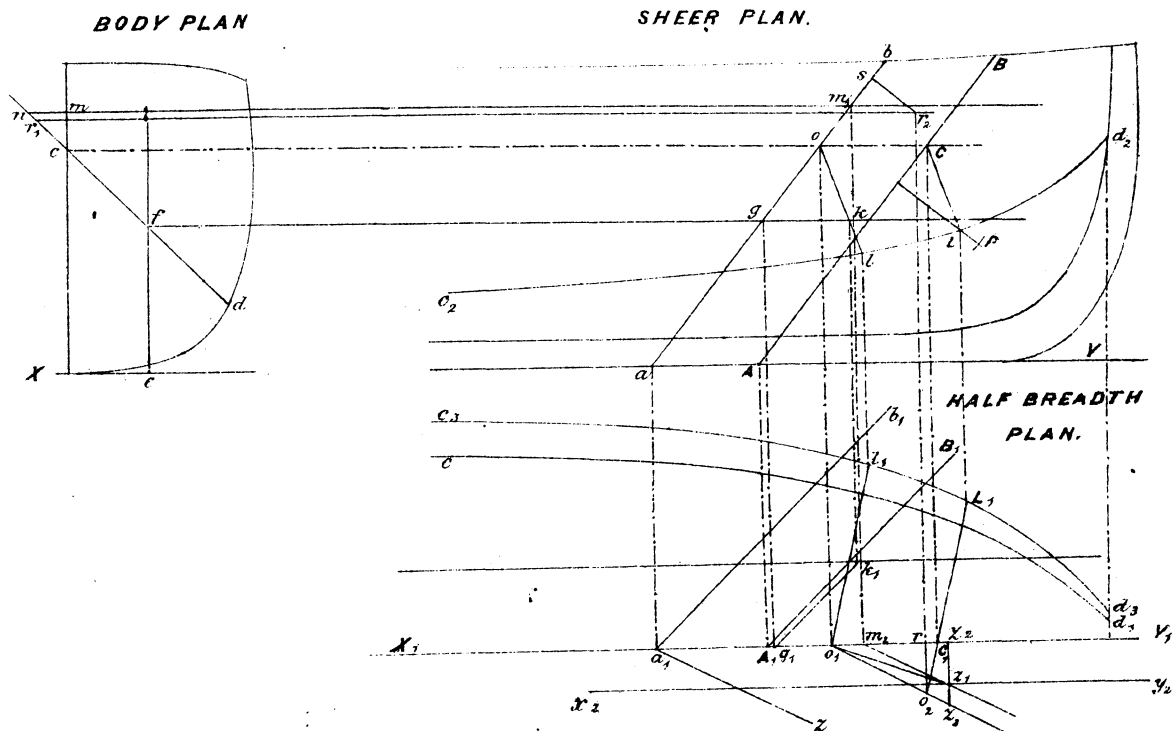


Plate LX

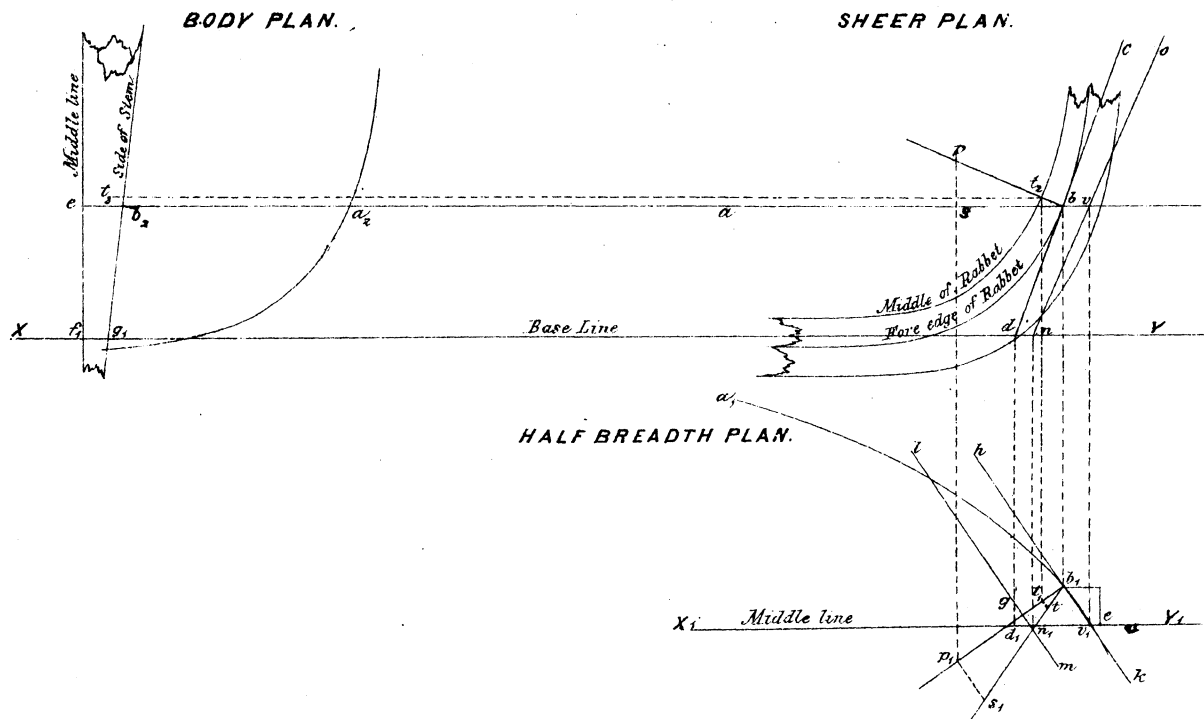
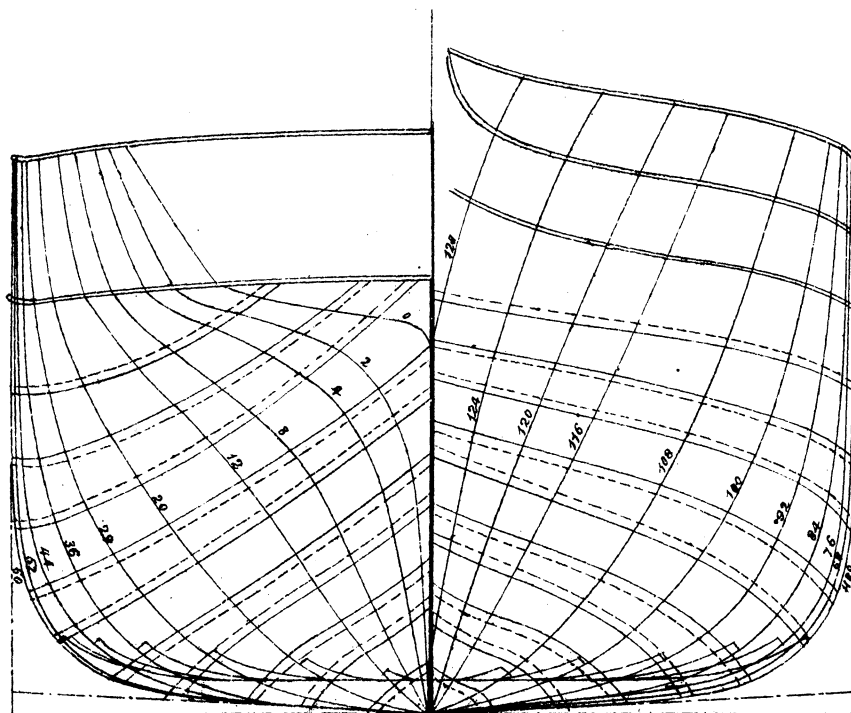
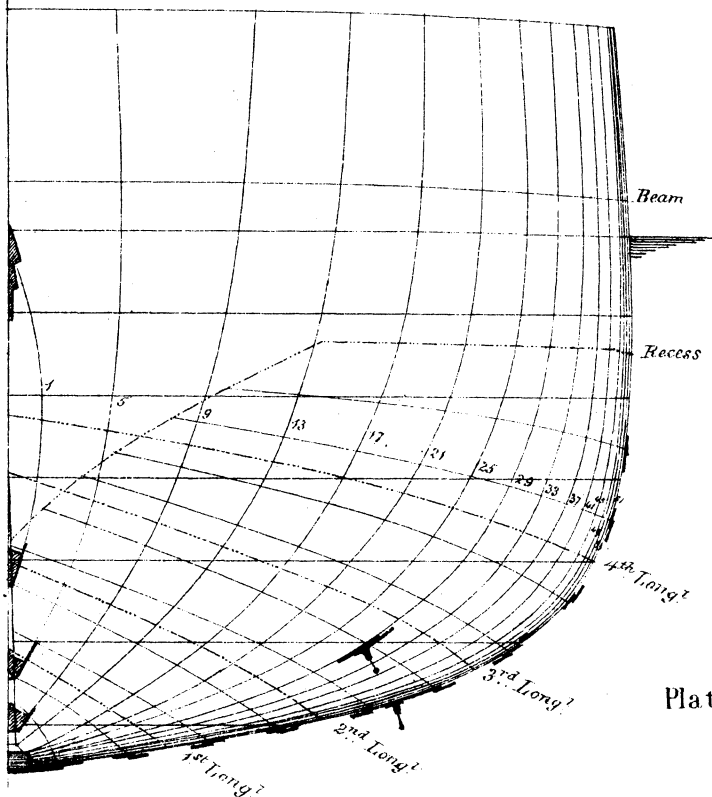


Plate LX



Fore Body of an Ironclad Ship.



After Body of an Ironclad Ship.

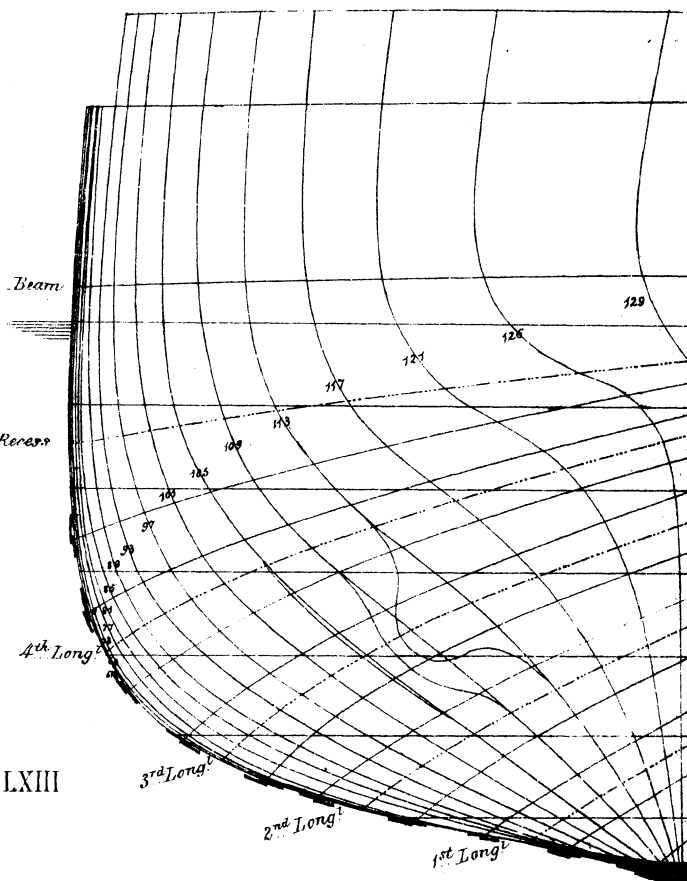


Plate LXIII

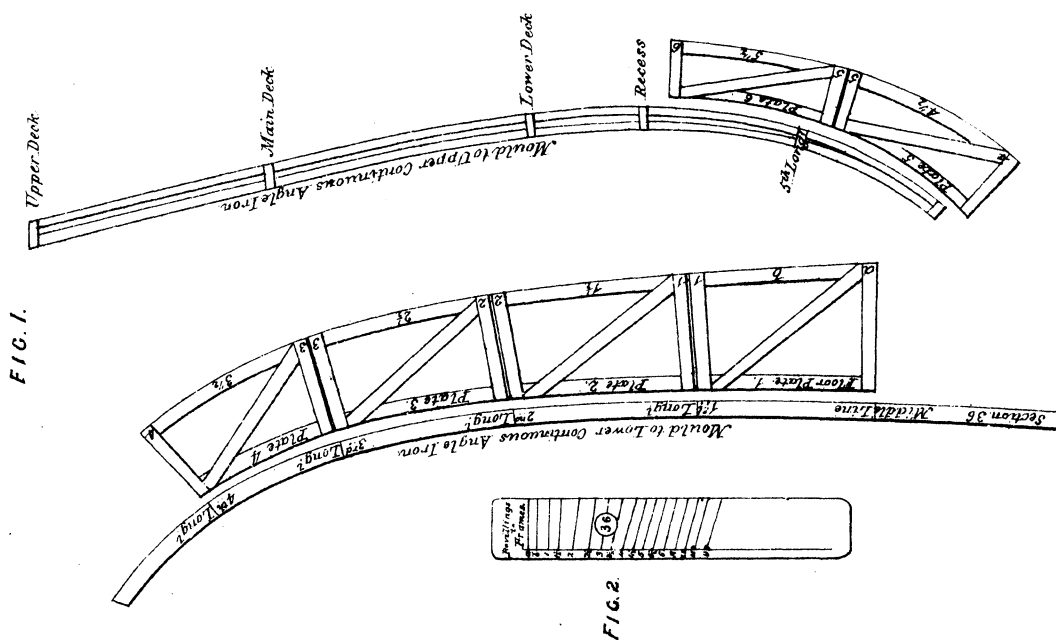


Plate LXIV

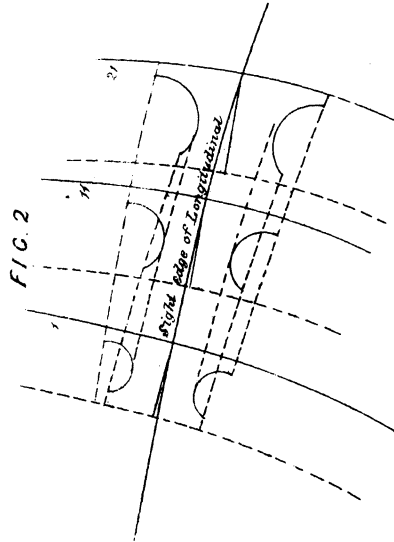
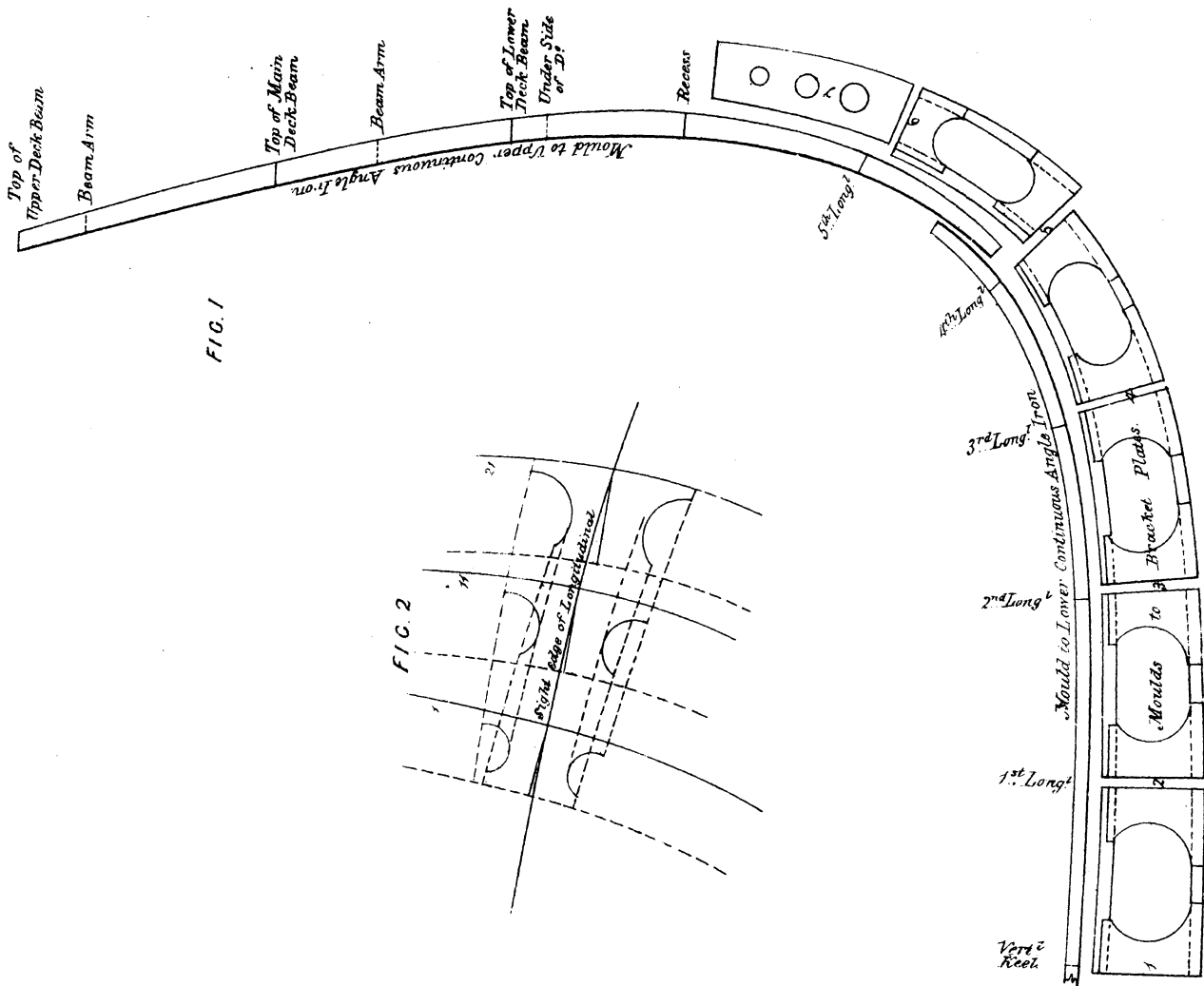


Plate LXV

FIG. 1
Beam Mould.

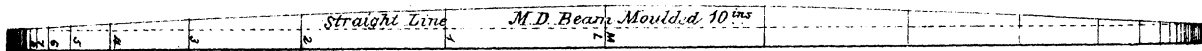


FIG. 2.

Scantling Batten

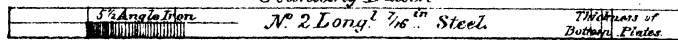
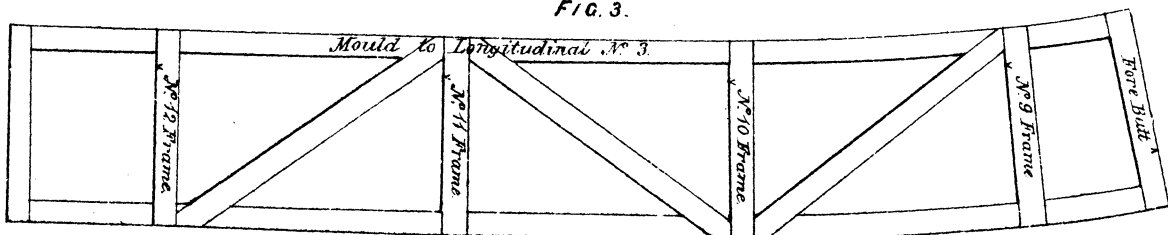
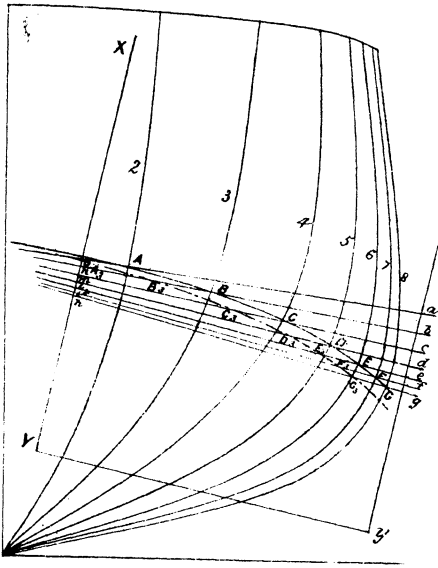


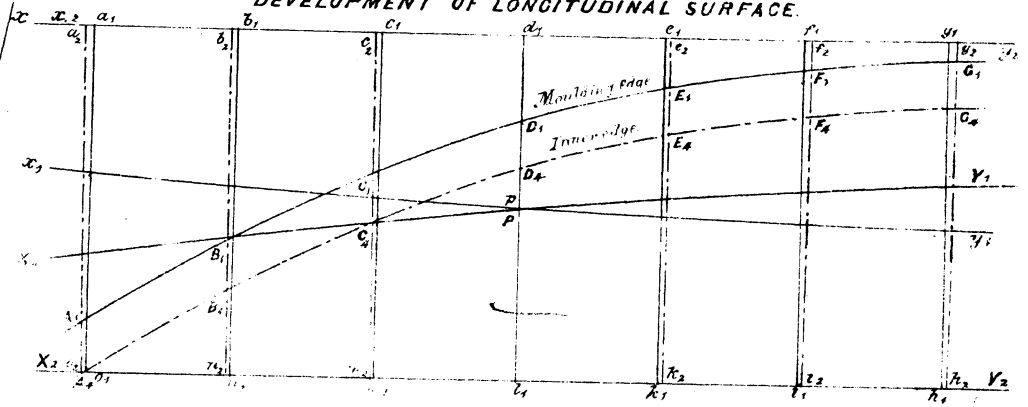
FIG. 3.



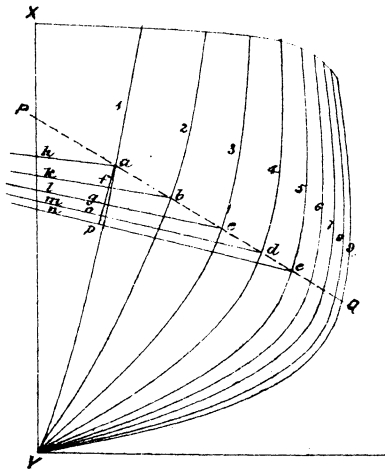
BODY PLAN.



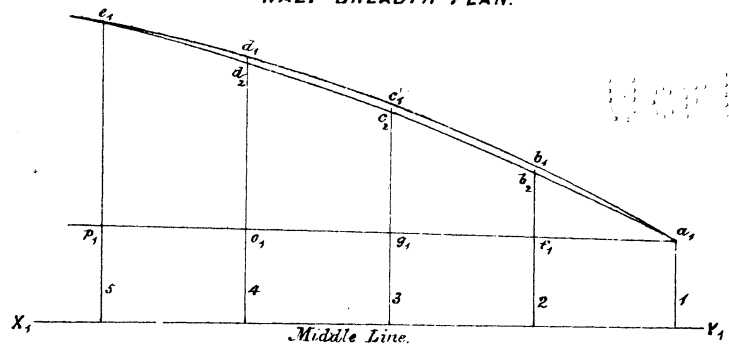
DEVELOPMENT OF LONGITUDINAL SURFACE.



BODY PLAN.



HALF BREADTH PLAN.



87011

Plate LXVIII

BODY PLAN.

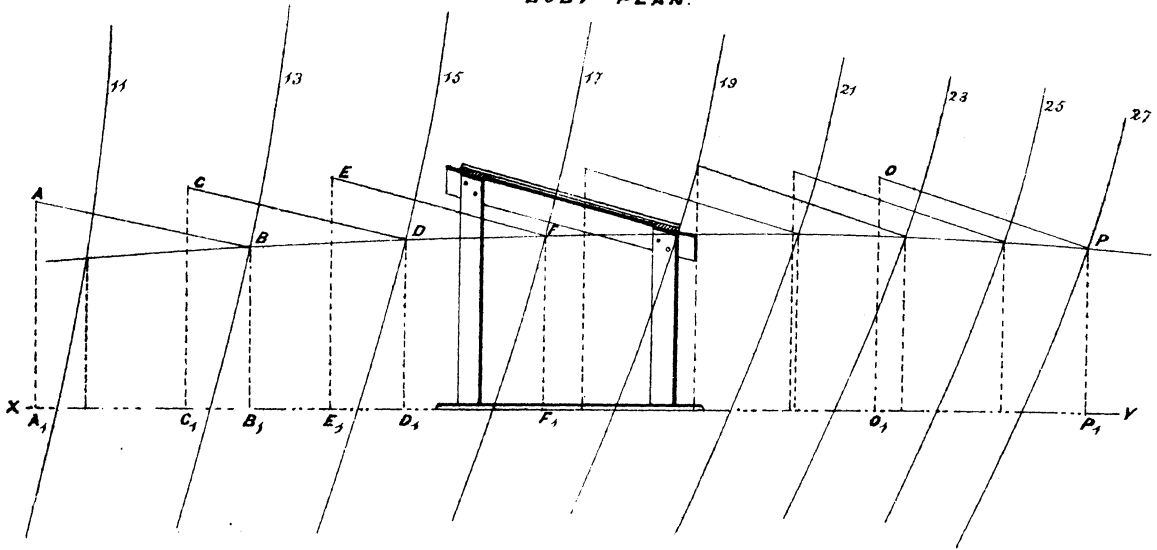
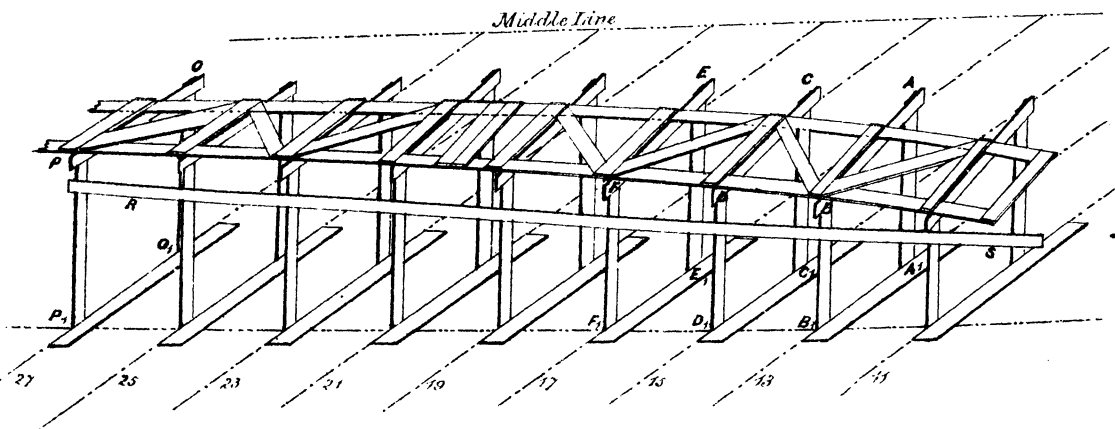


Plate LXIX

HALF BREADTH PLAN.



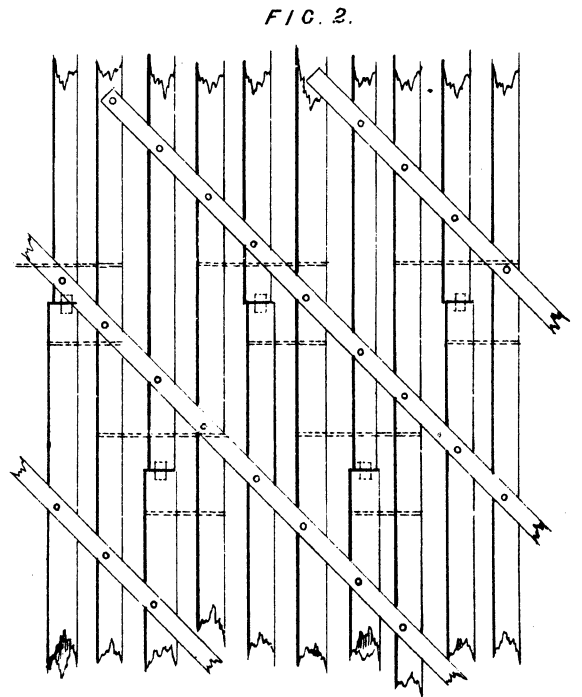
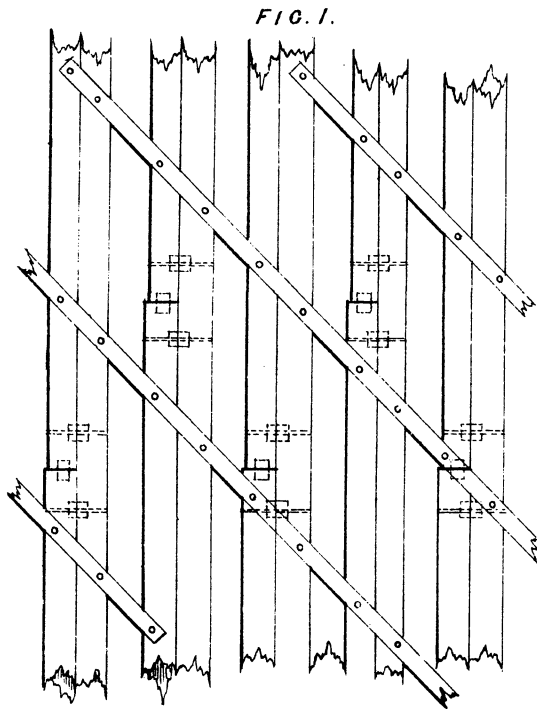
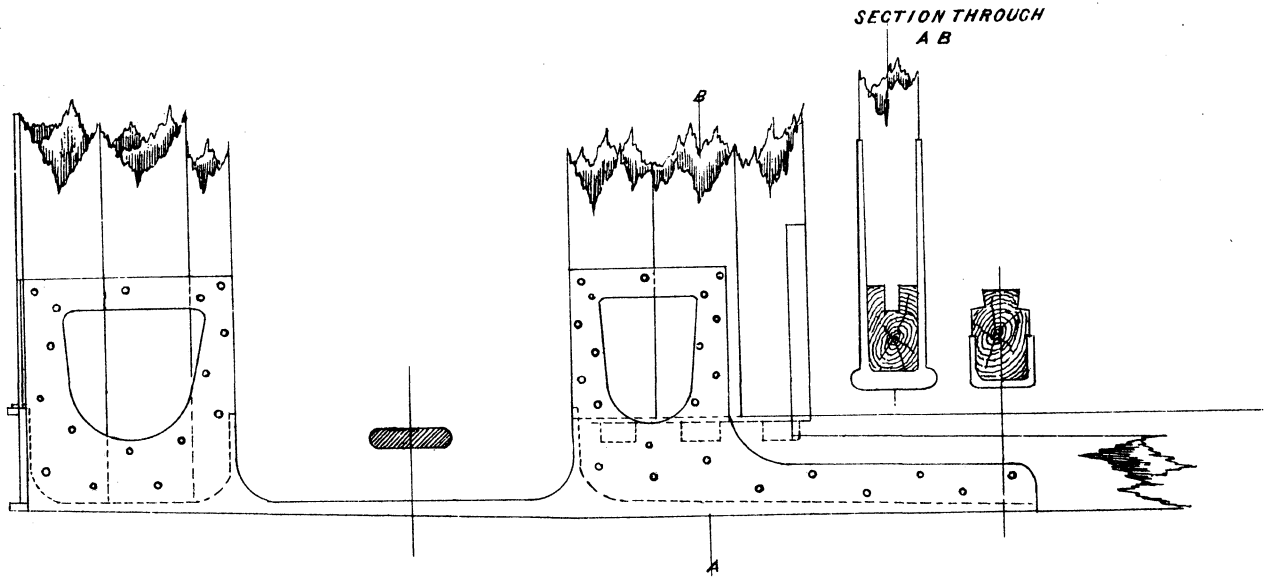


Plate LXXII

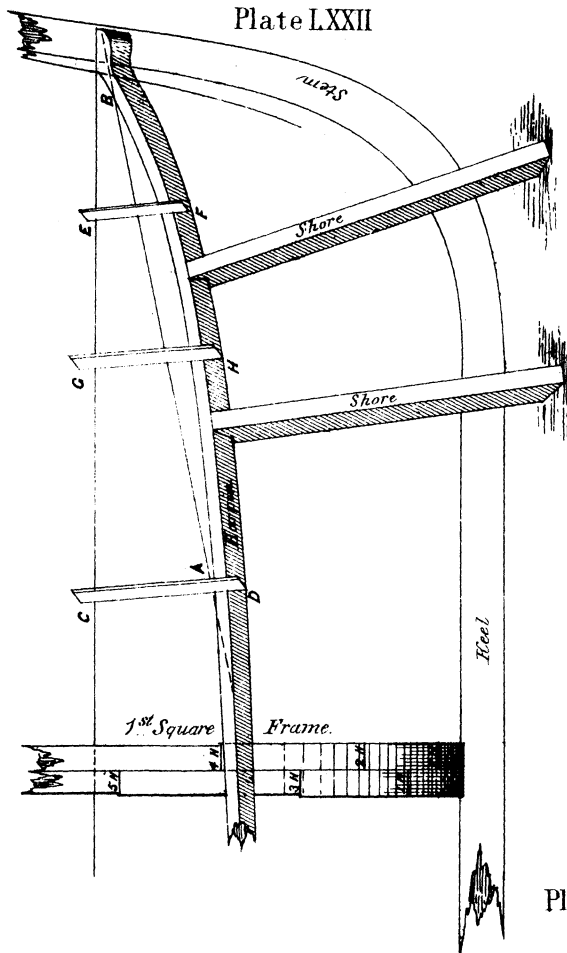


Plate LXXIII

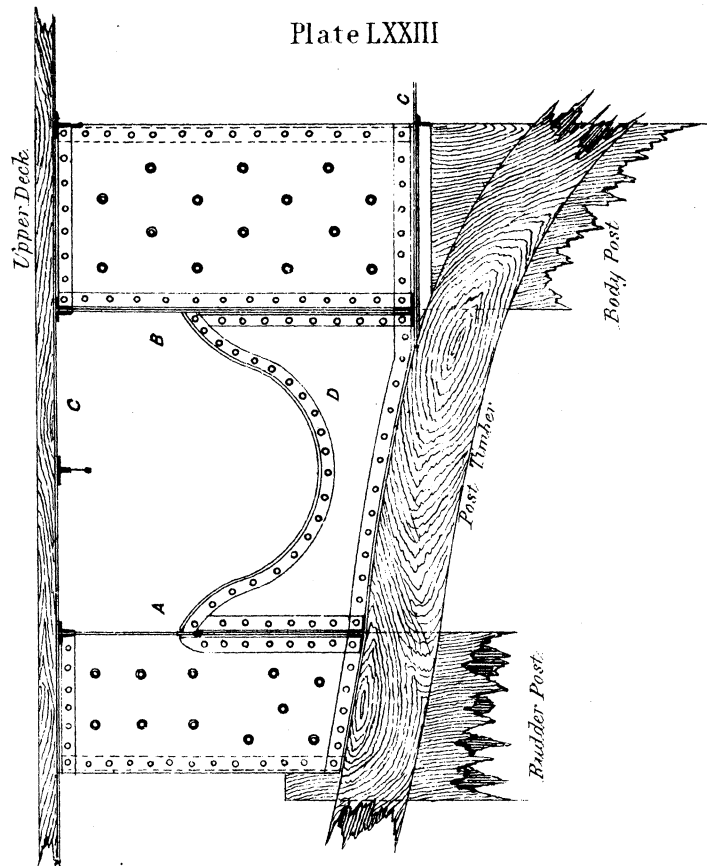


Plate LXXIV

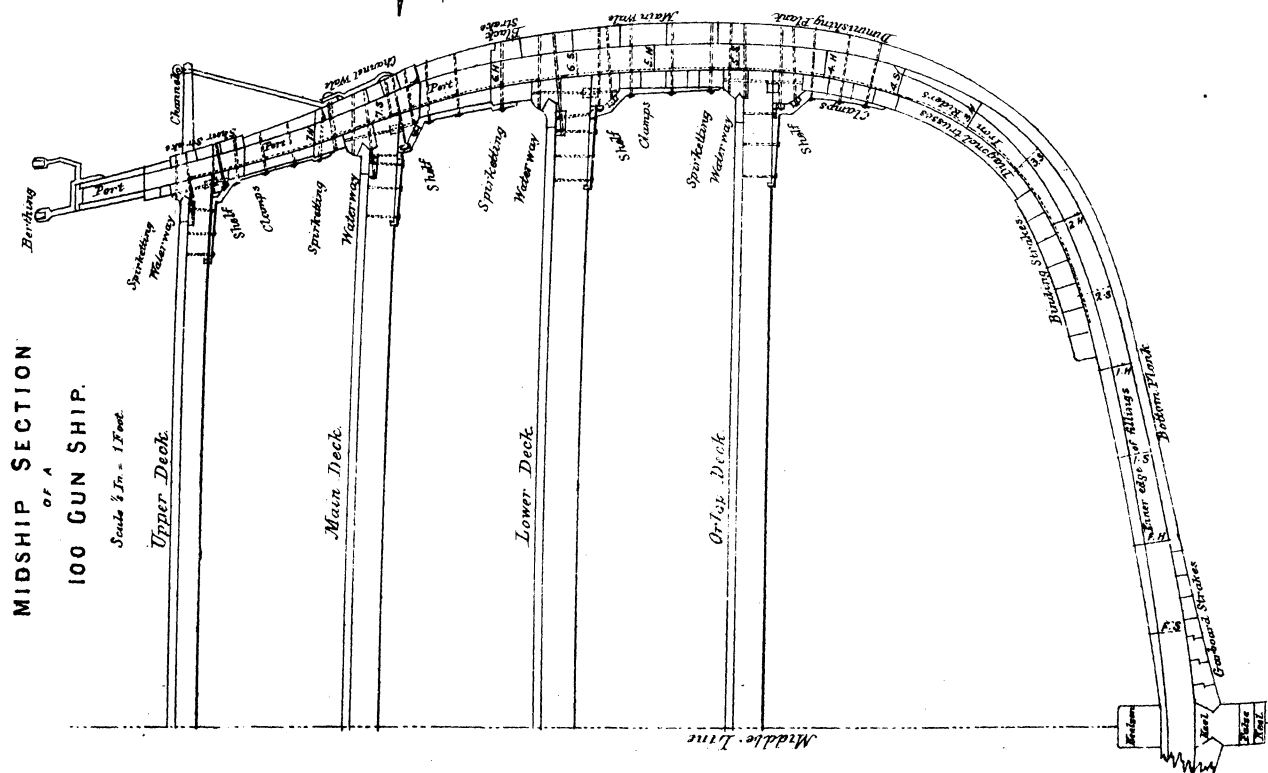


Plate LXXV

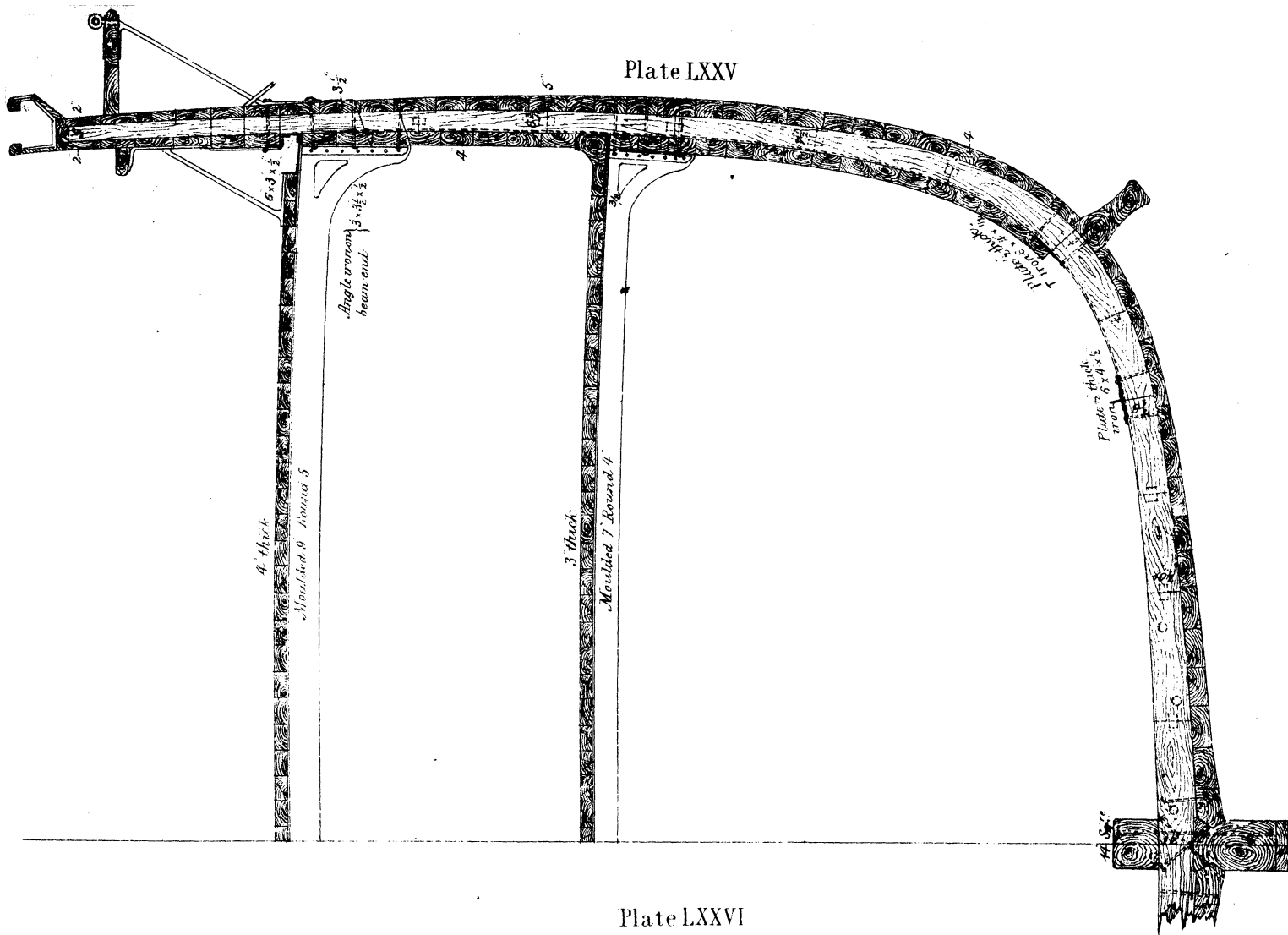


Plate LXXVI

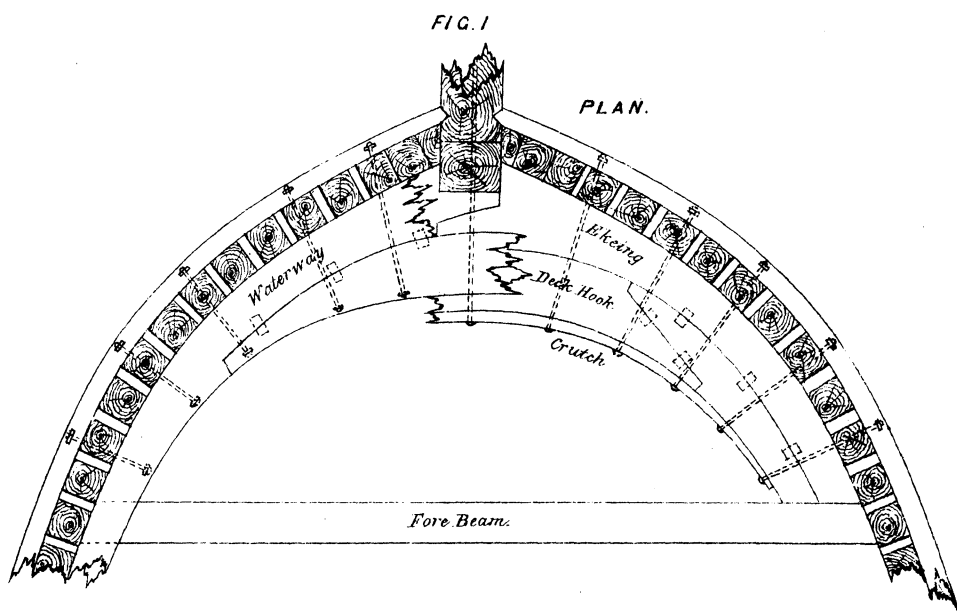
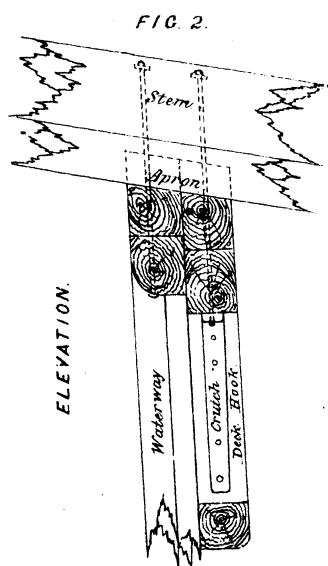


Plate LXXVII

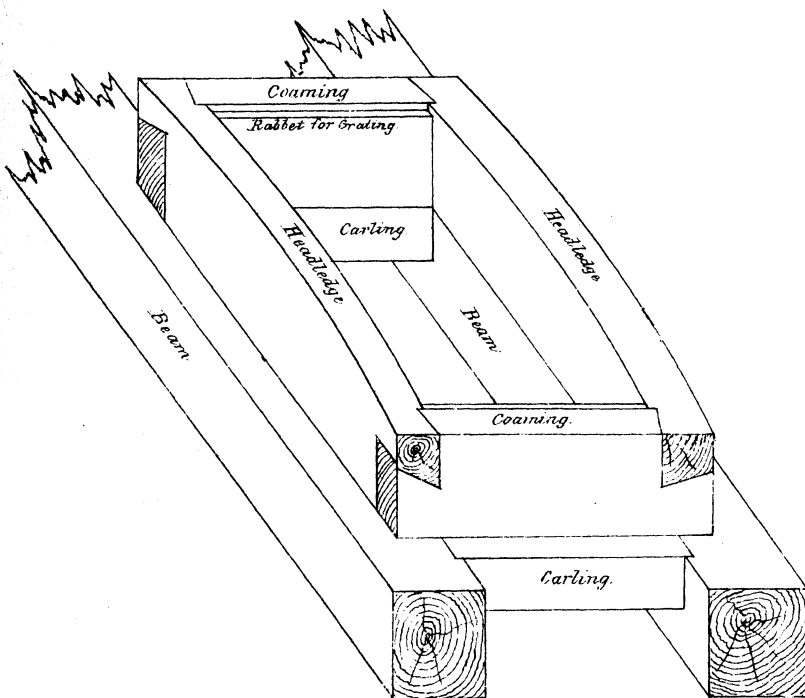


Plate LXXVIII

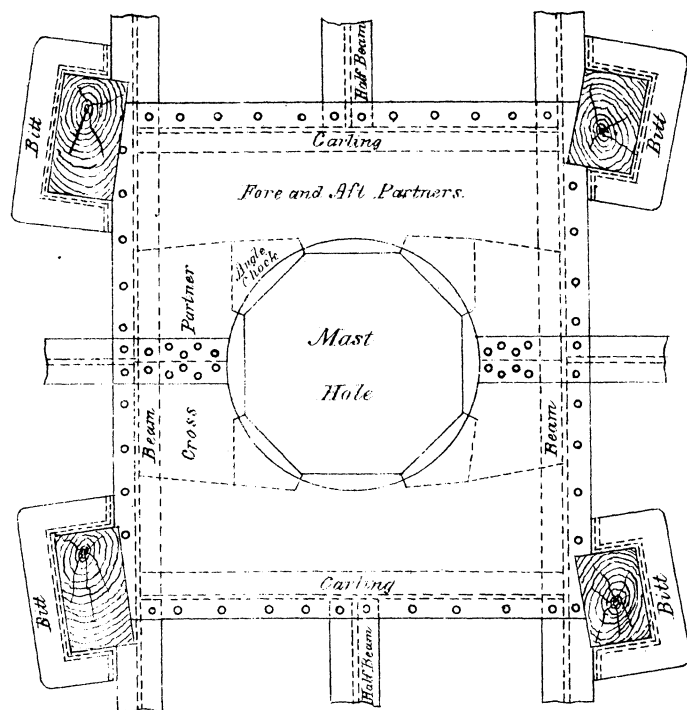


Plate LXXIX

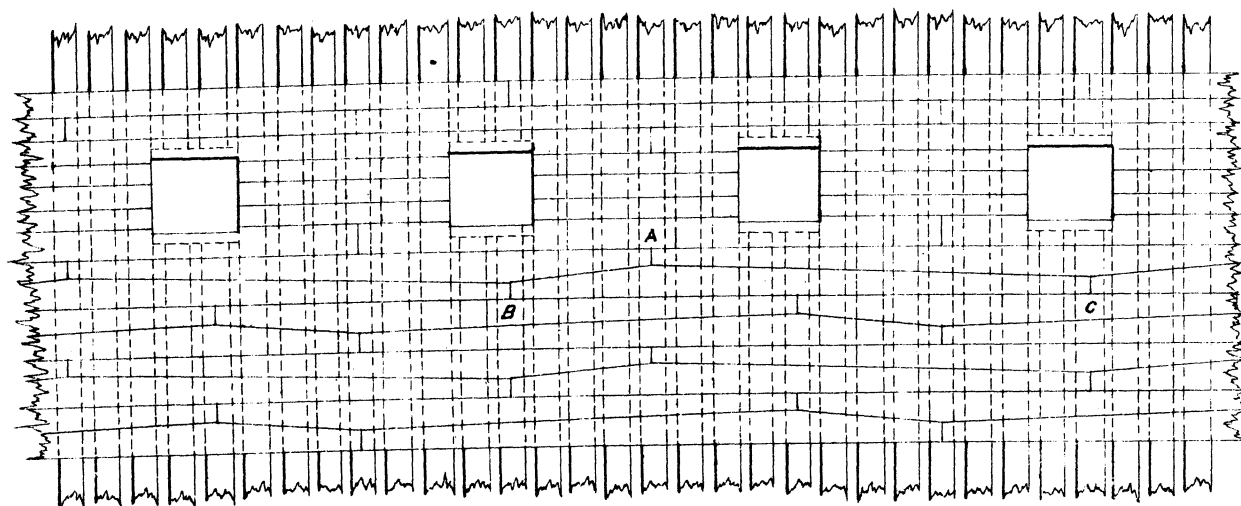


FIG. 1.

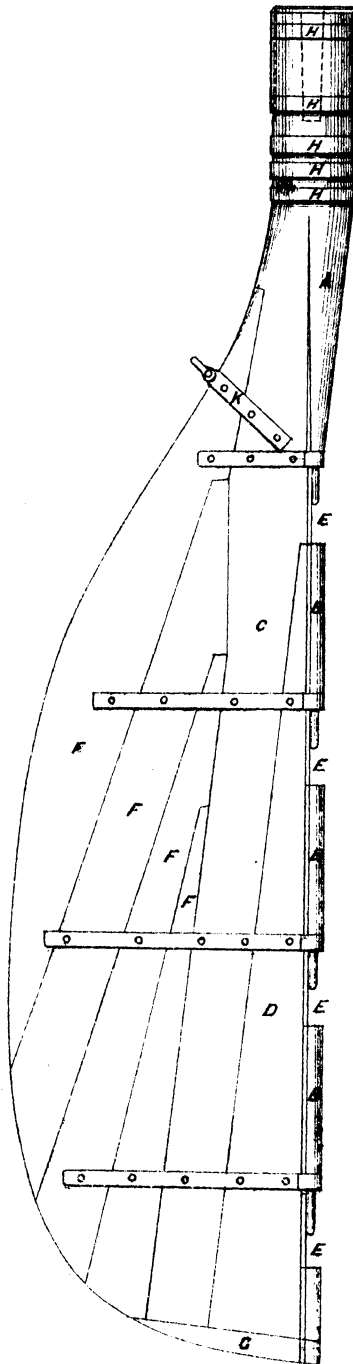


FIG. 2

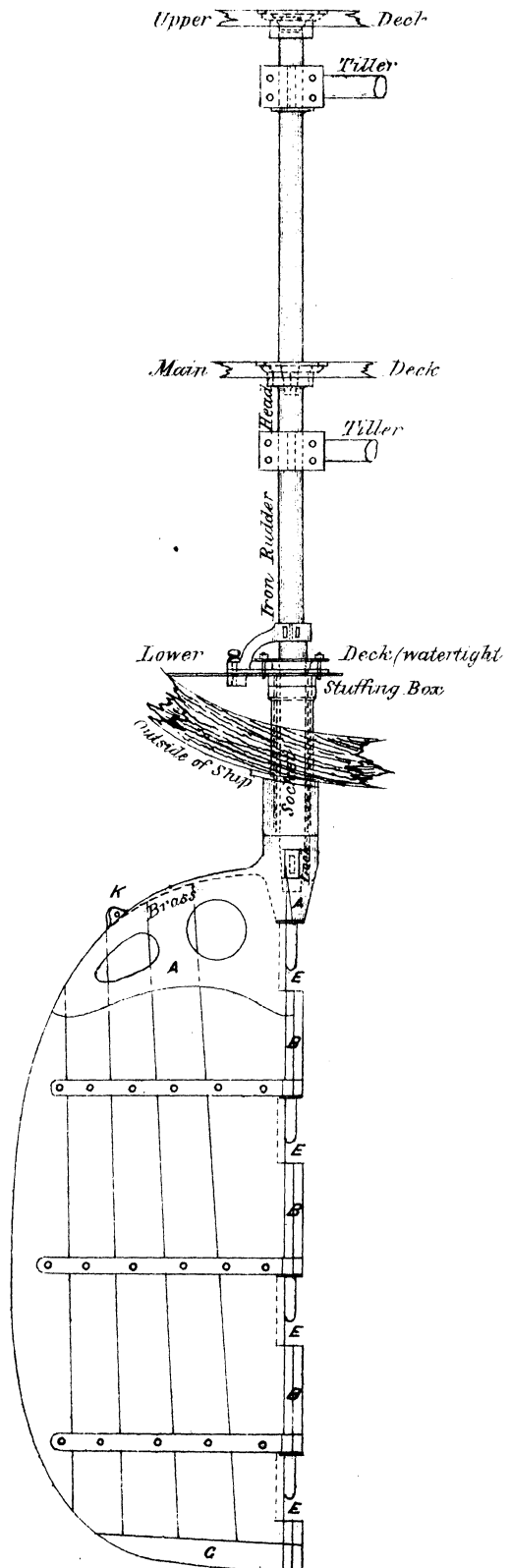


FIG. 1.

ELEVATION.

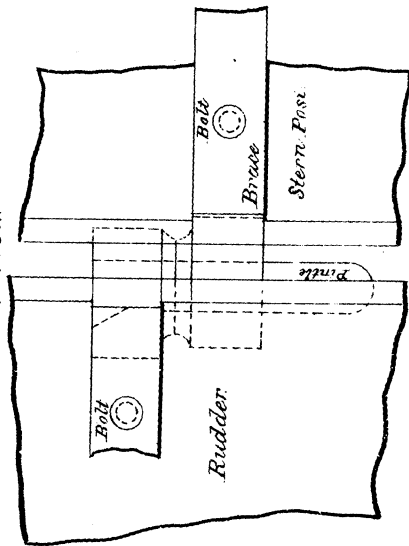


FIG. 2.

HORIZONTAL SECTION.

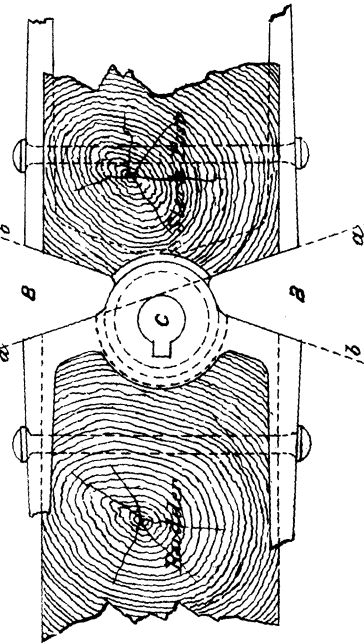


FIG. 1.

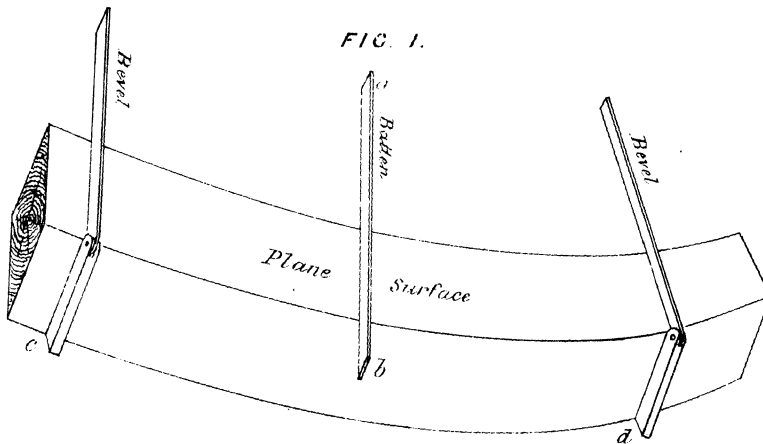
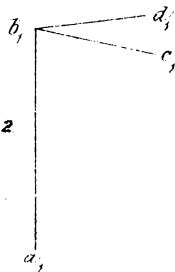


FIG. 2



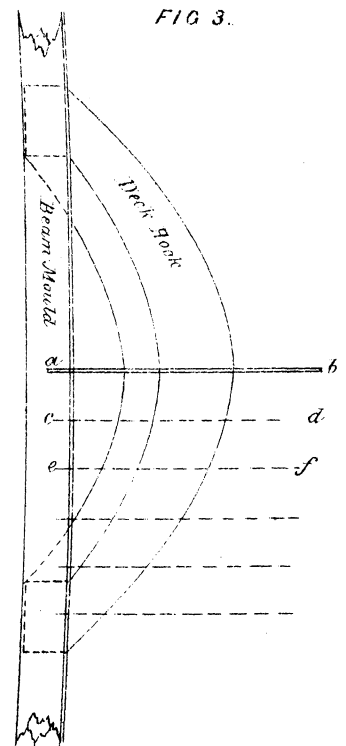
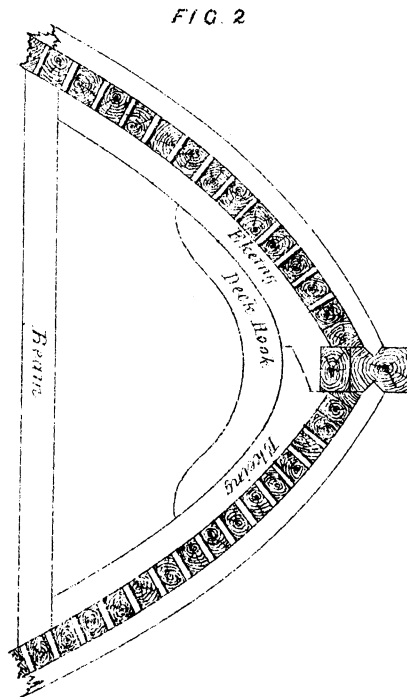
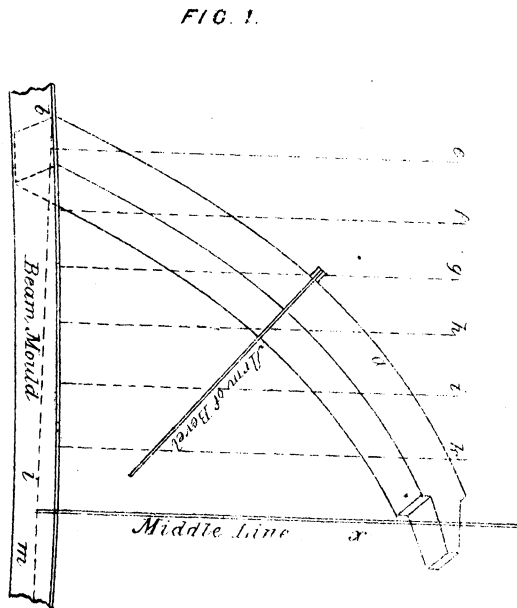
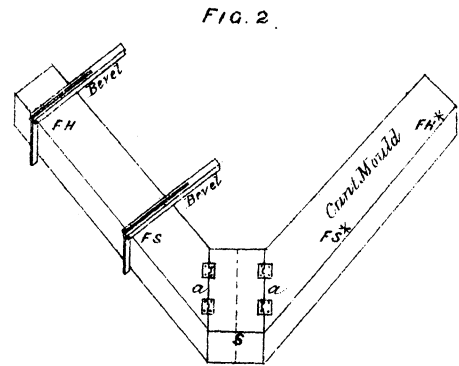
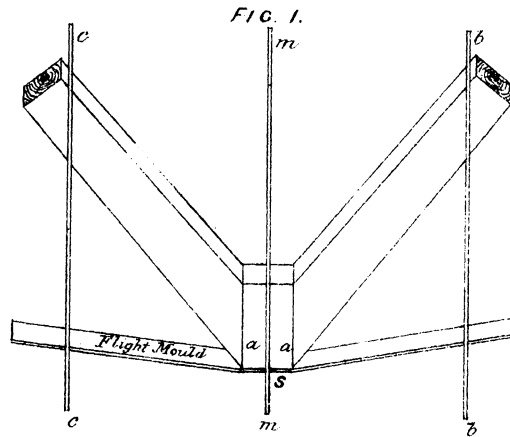


Plate LXXXVII

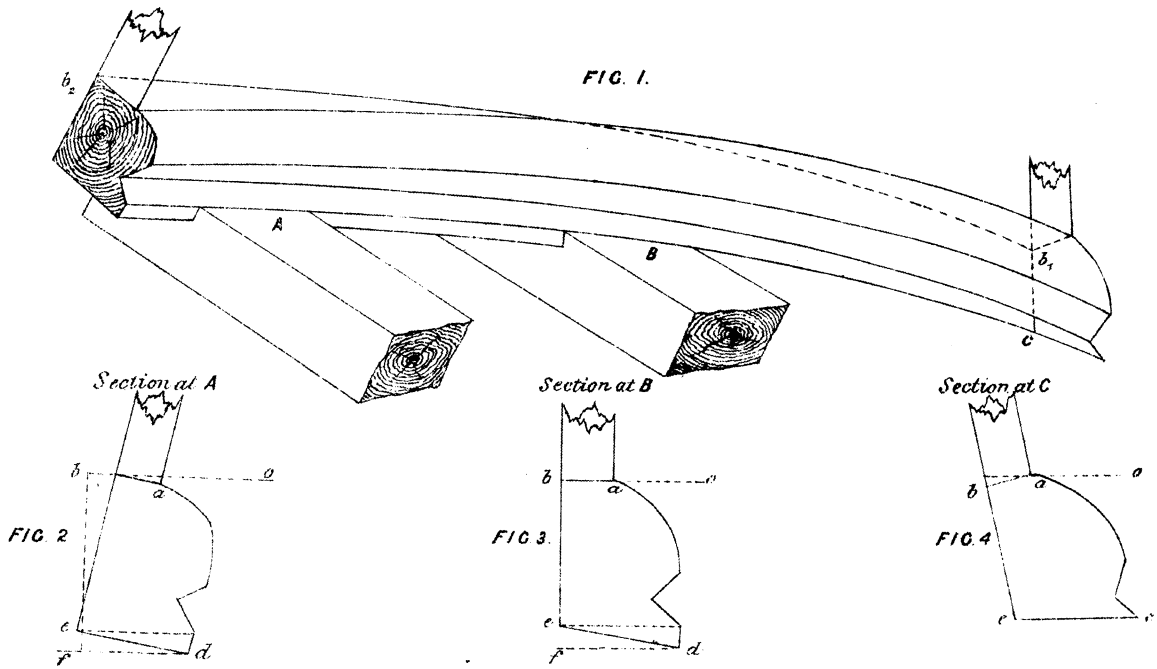
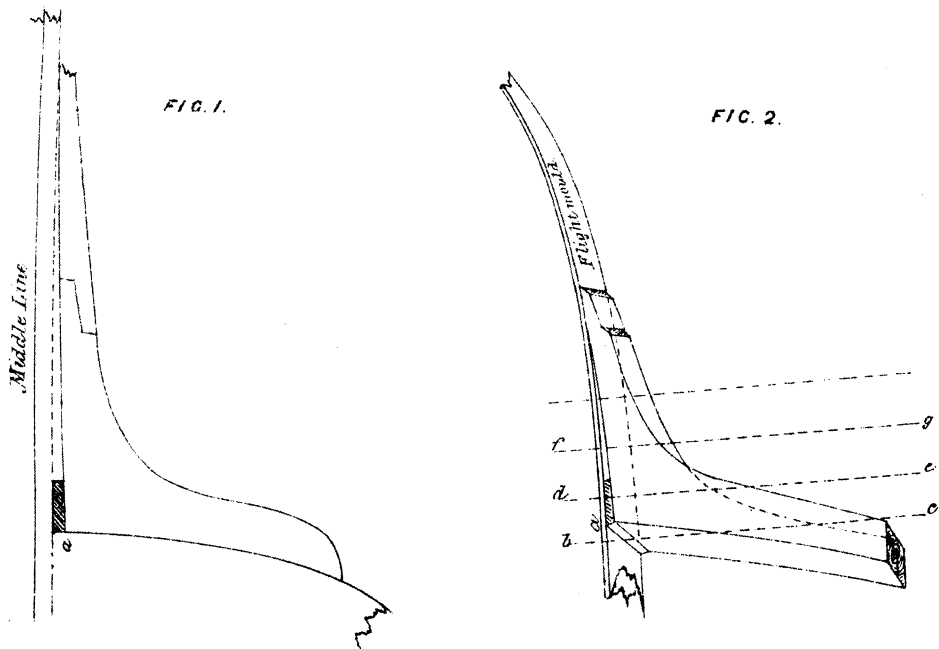
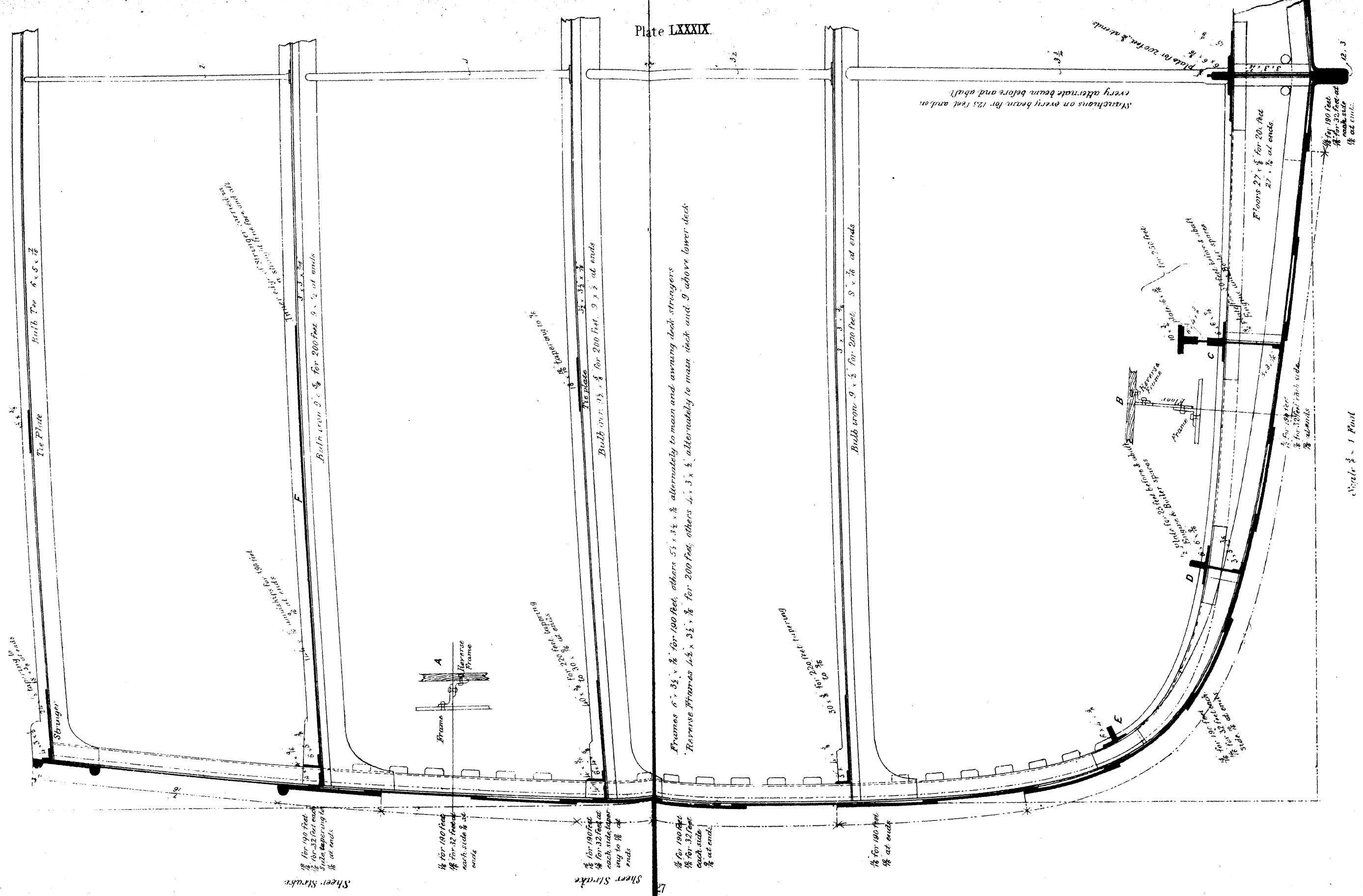


Plate LXXXVIII





Scale 3" = 1 foot

Plate XC
FIG. 1.

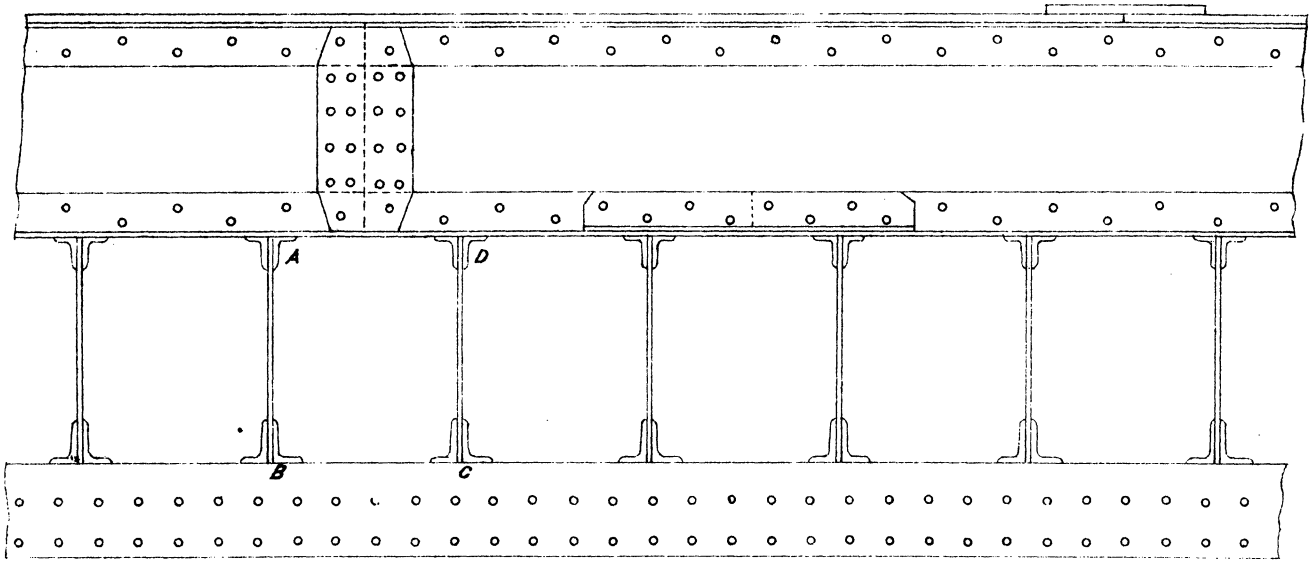


FIG. 2.

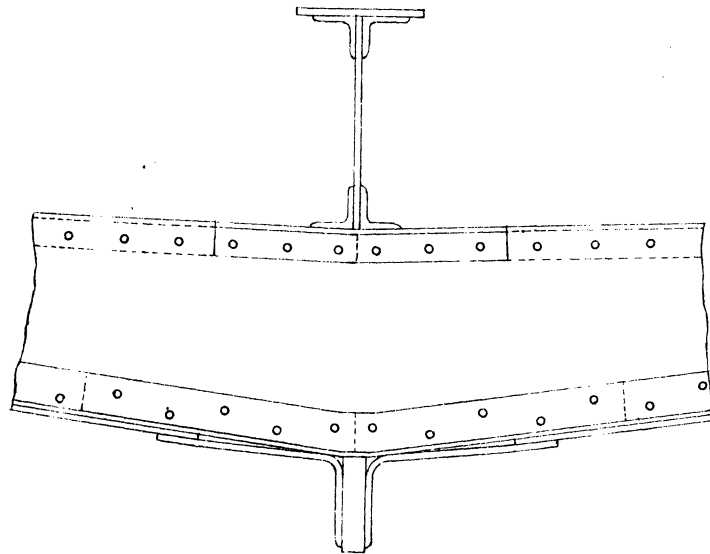


Plate XCIII

FIG. 1.

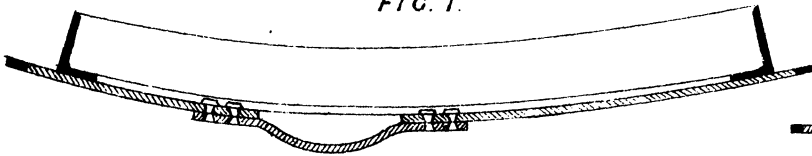


FIG. 2.

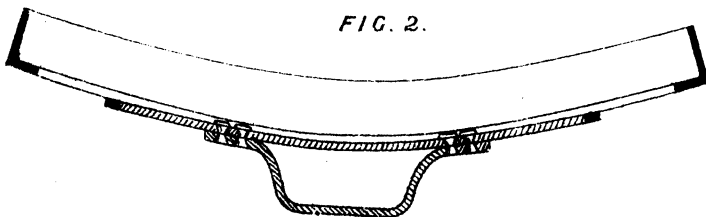


FIG. 3.

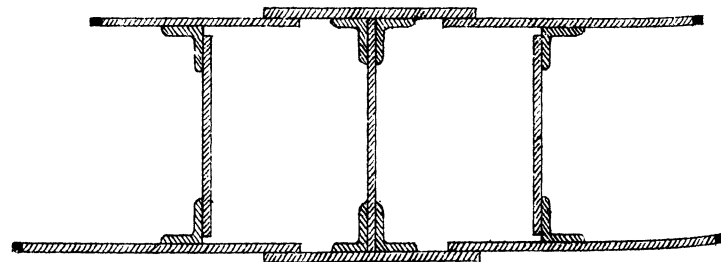


Plate XCI

FIG. 1.

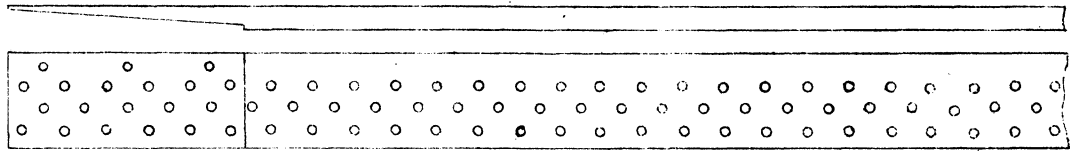


FIG. 2.

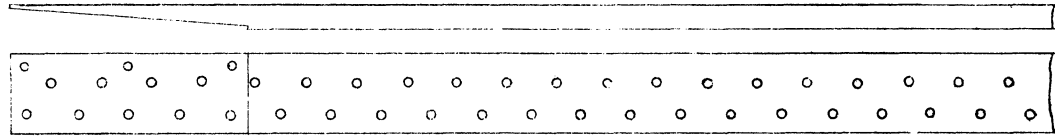
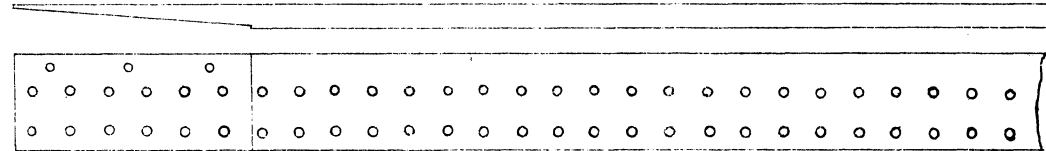


FIG. 3.



Scale $\frac{1}{2}$ inch to the foot

Plate XCII

FIG. 1.

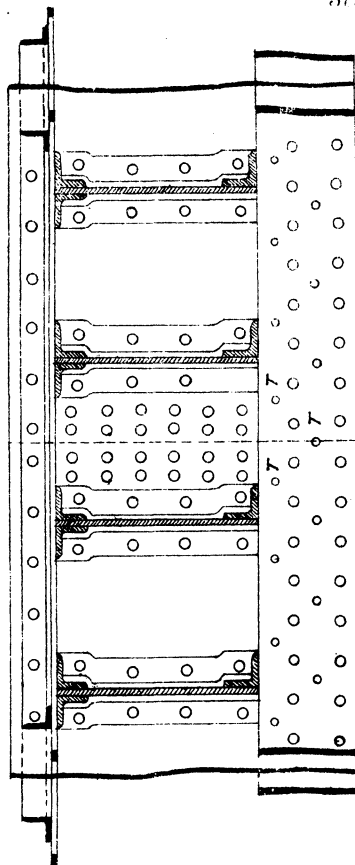
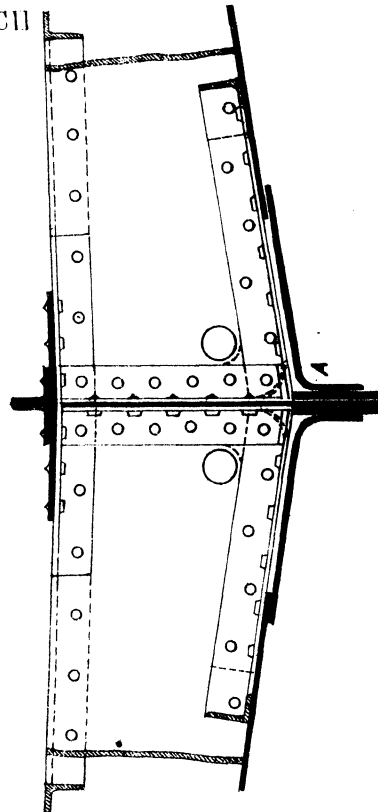


FIG. 2.



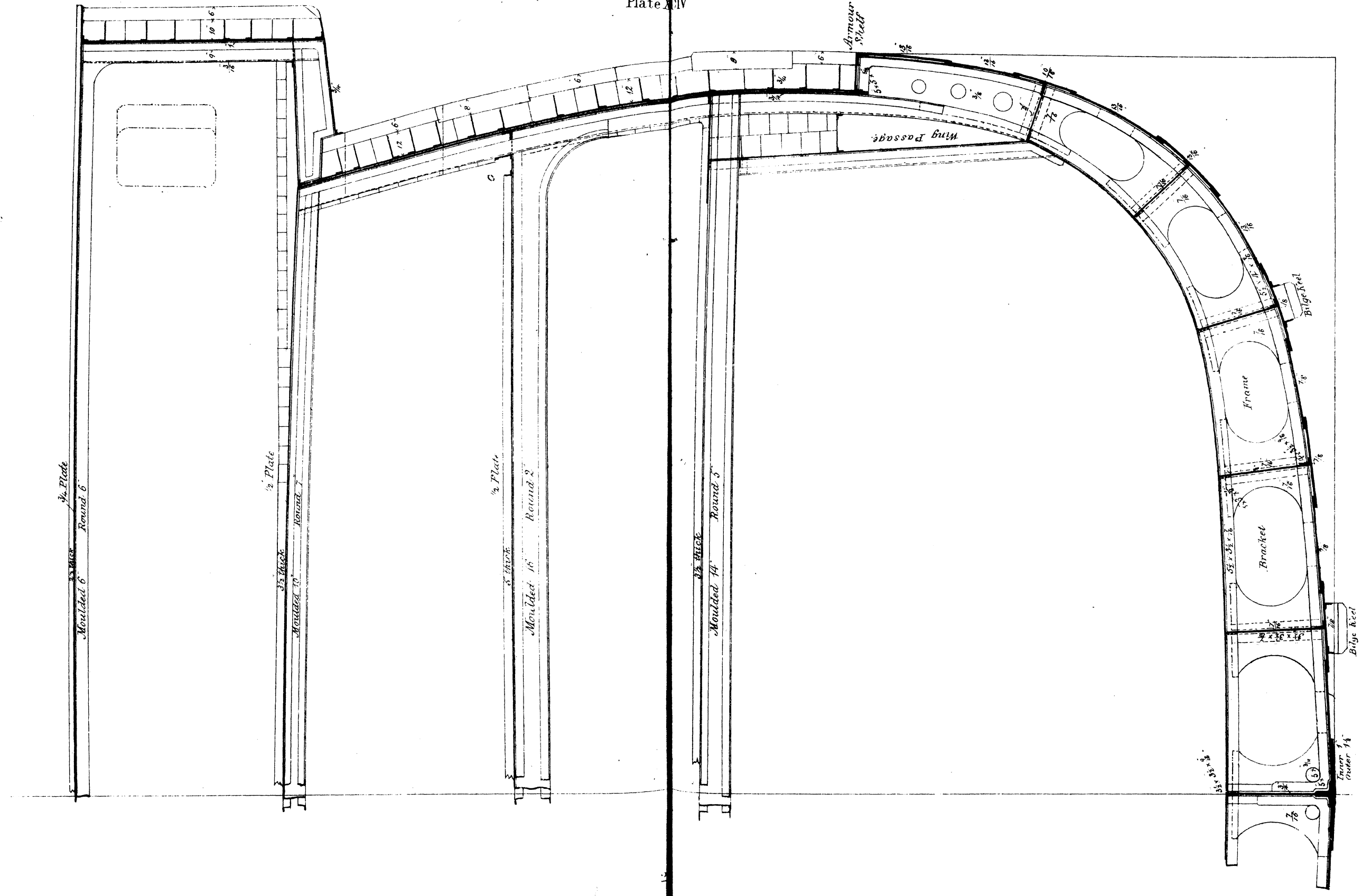


FIG. 1.
PLAN.

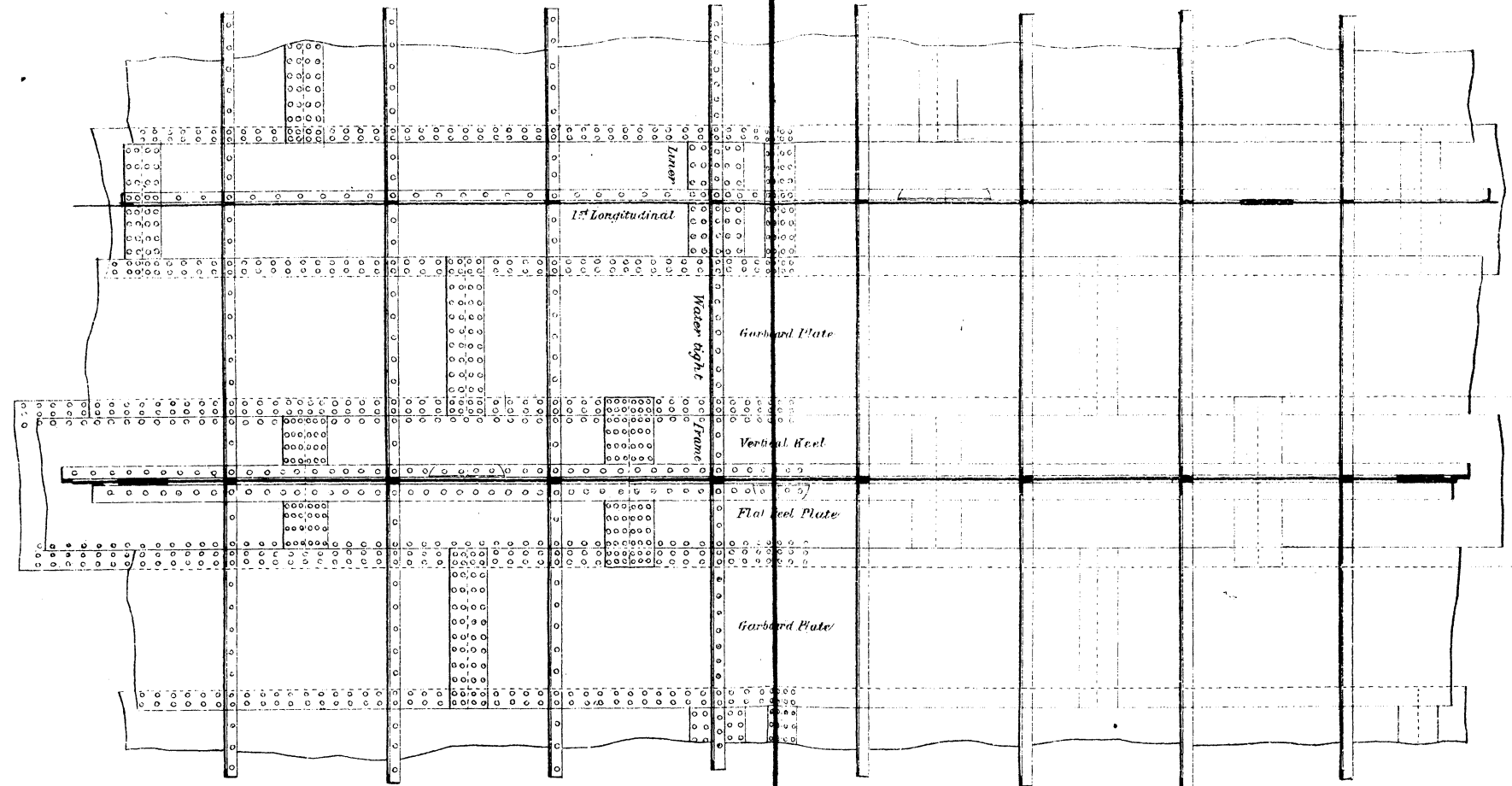
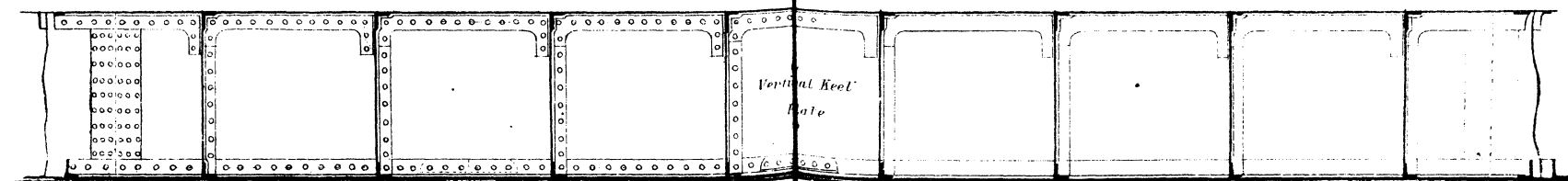
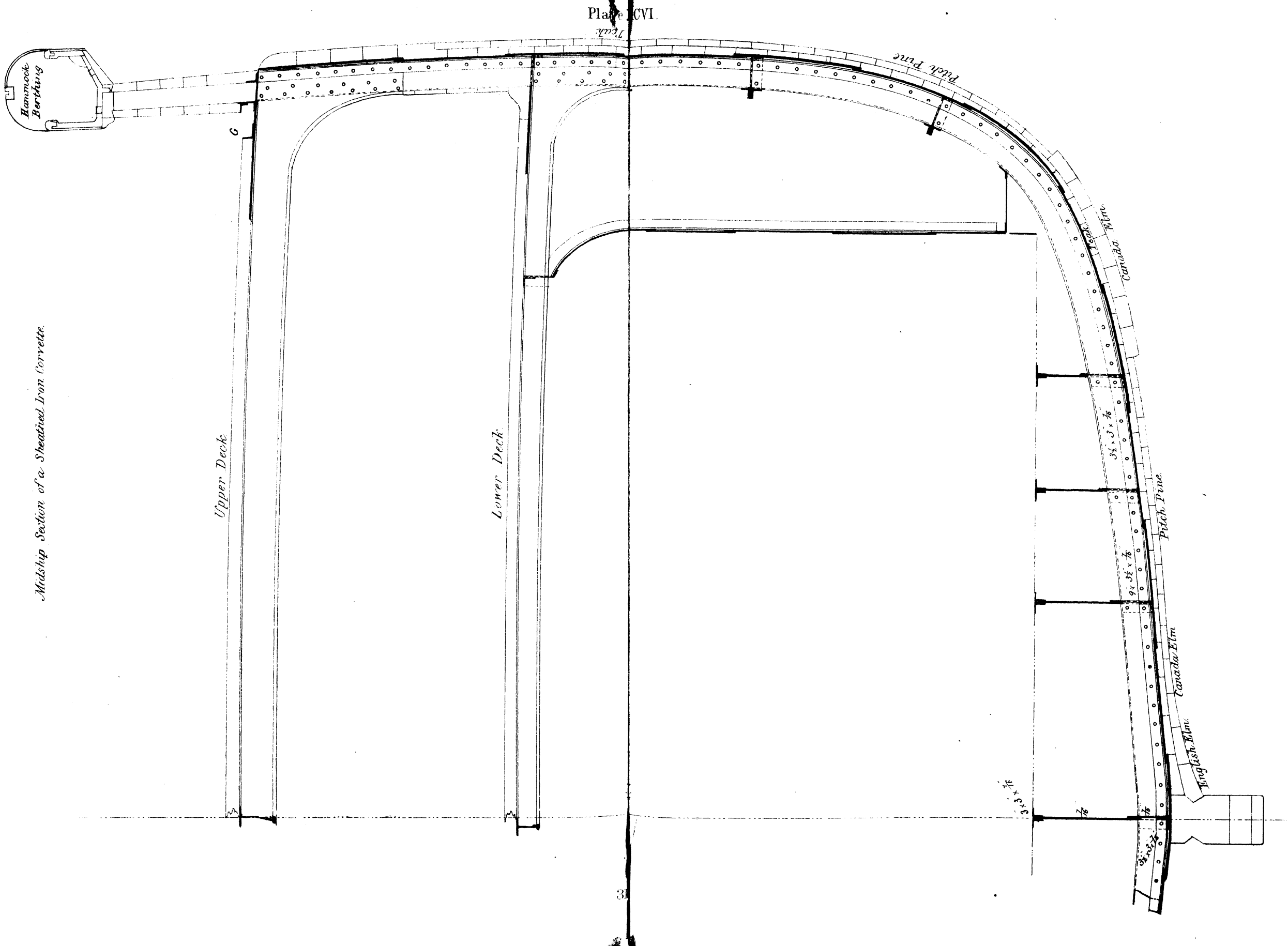
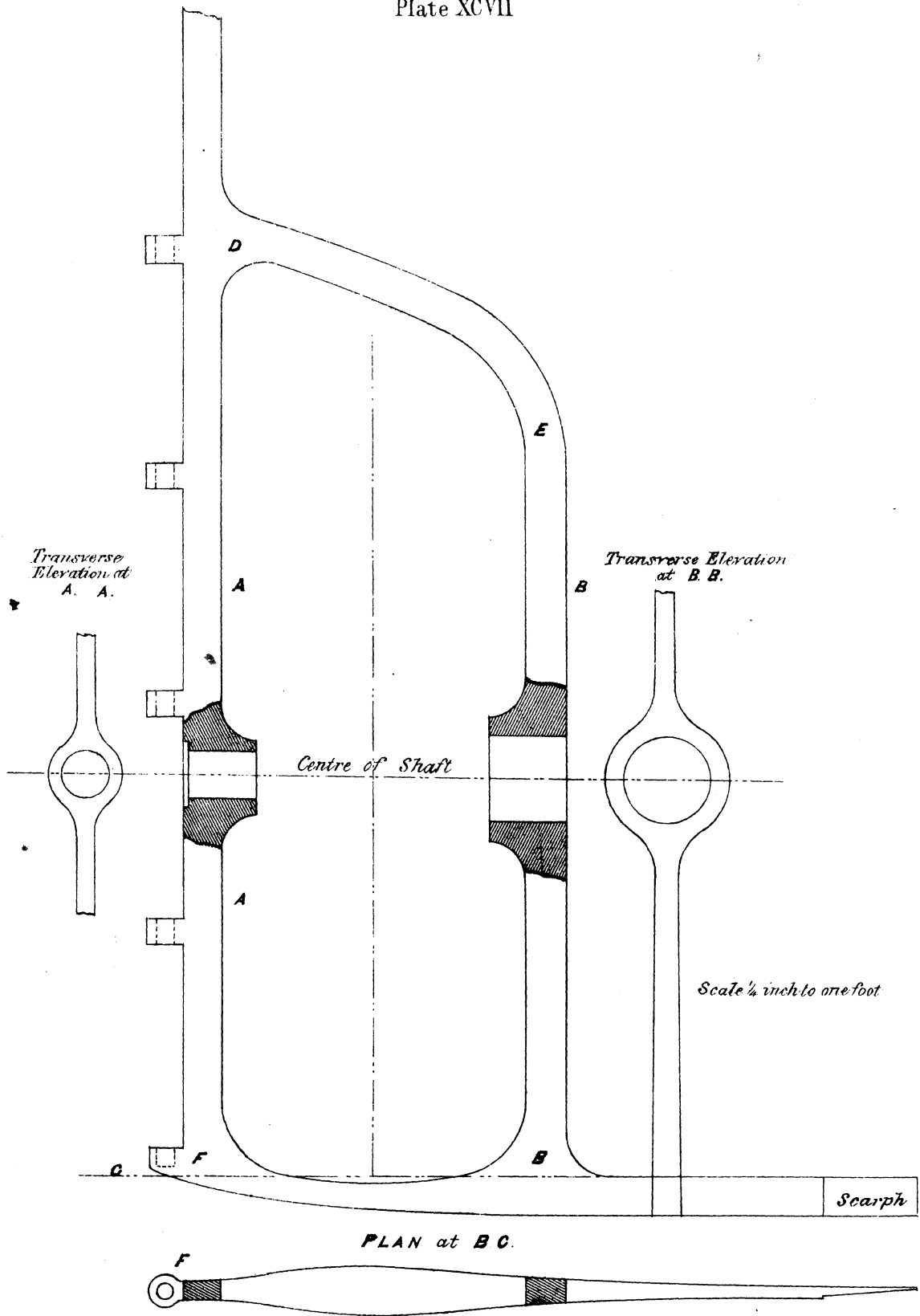


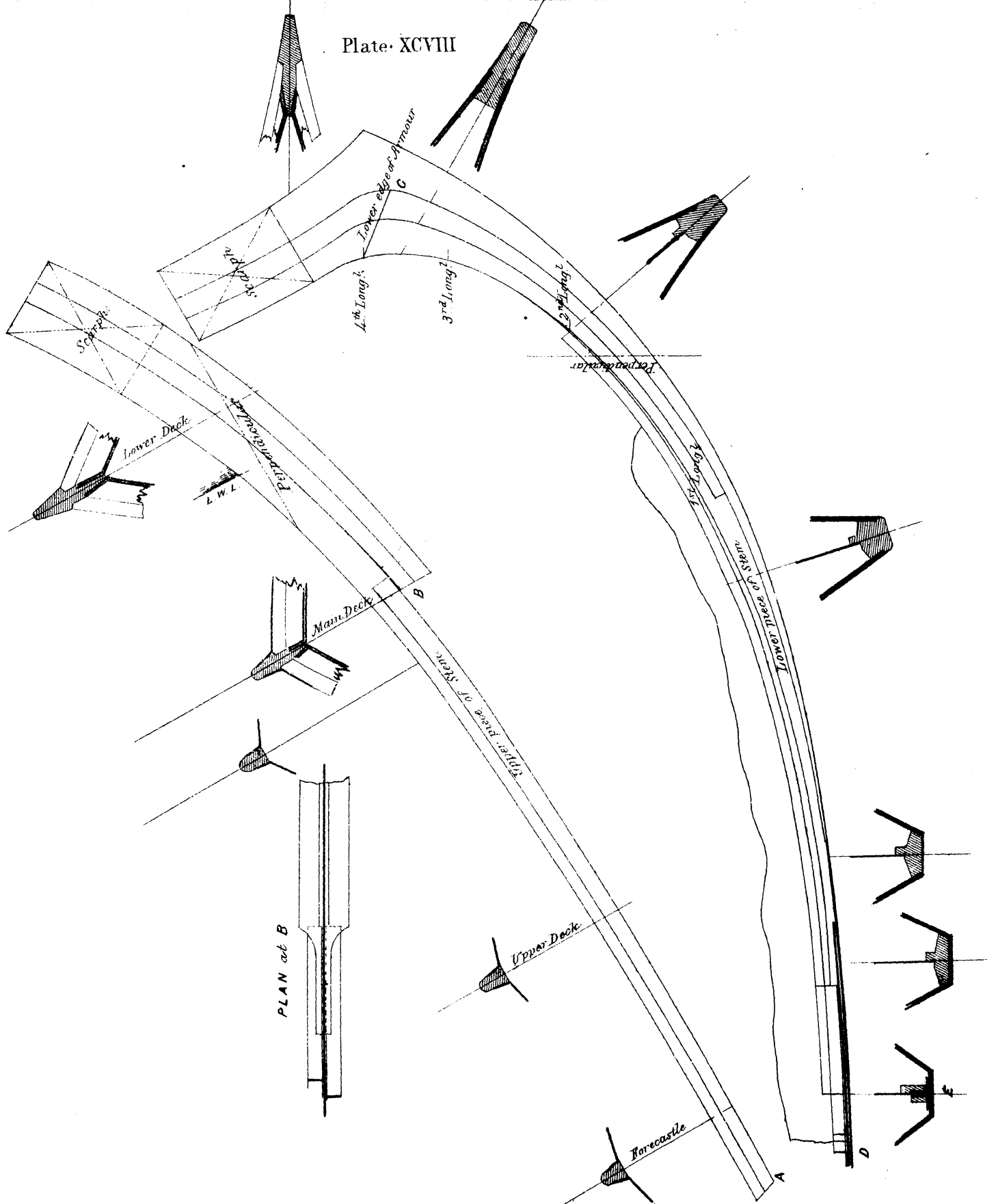
FIG. 2.
ELEVATION.



Midship Section of a Sheathed Iron Corvette.







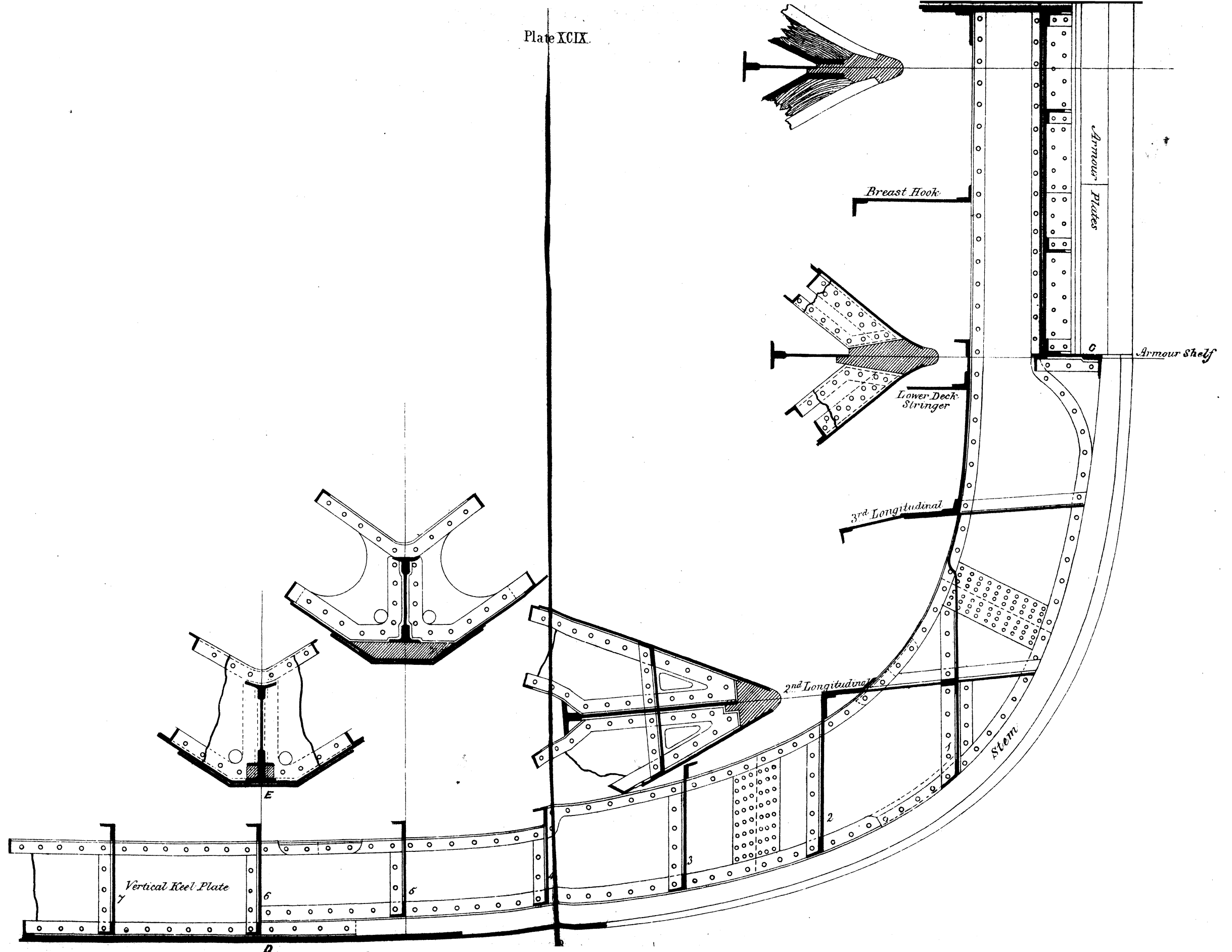


Plate C.

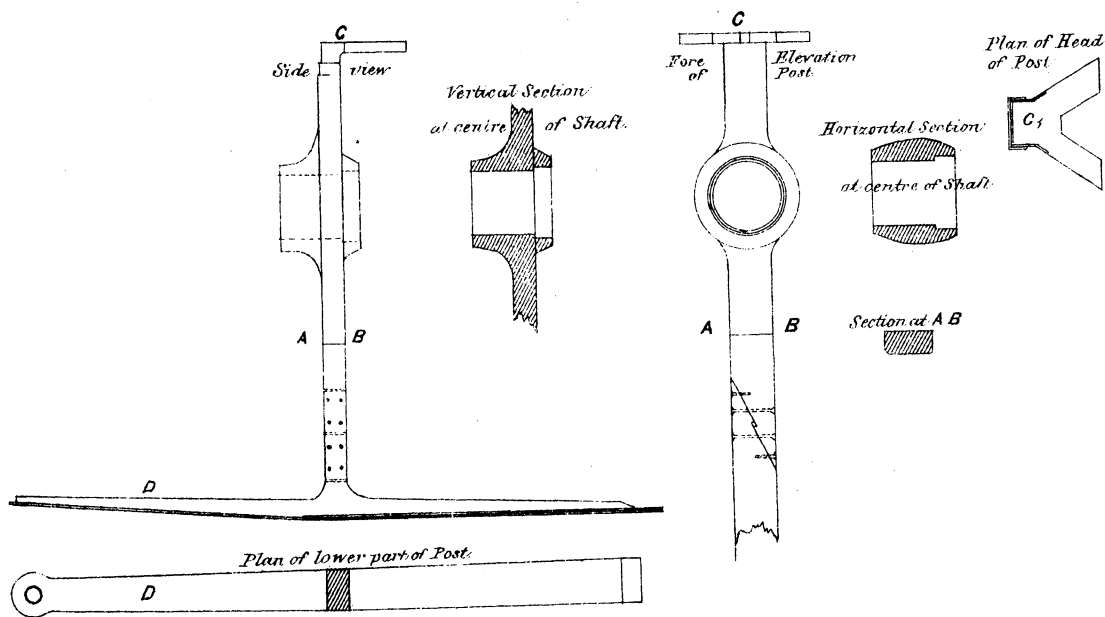


Plate CI

FIG. 1. ELEVATION.

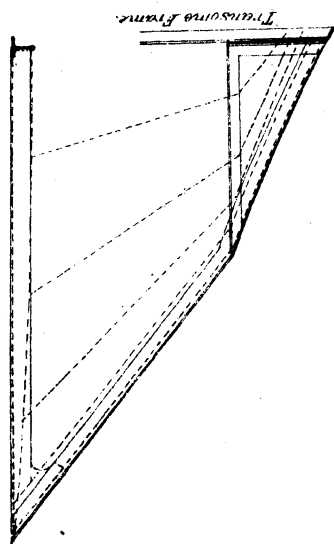
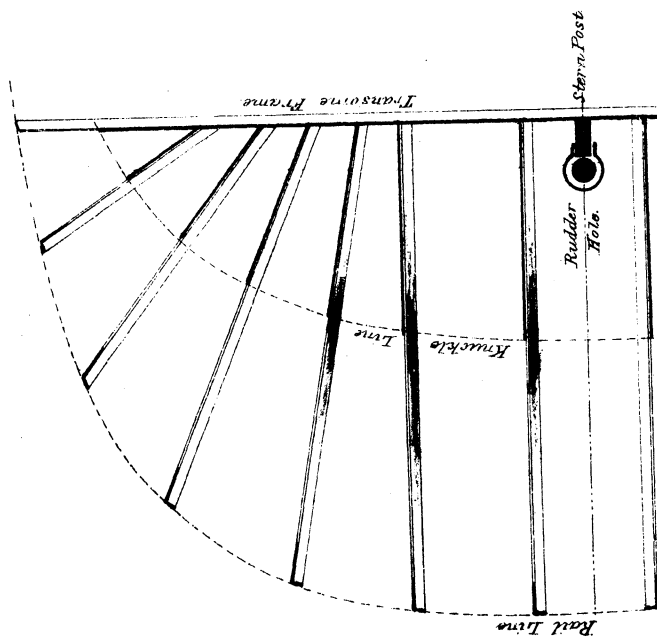


FIG. 2. PLAN



ARMOUR CLAD SHIP.

Shift of Butts of Bottom Plating and Longitudinals of an

Plates 16 feet long.

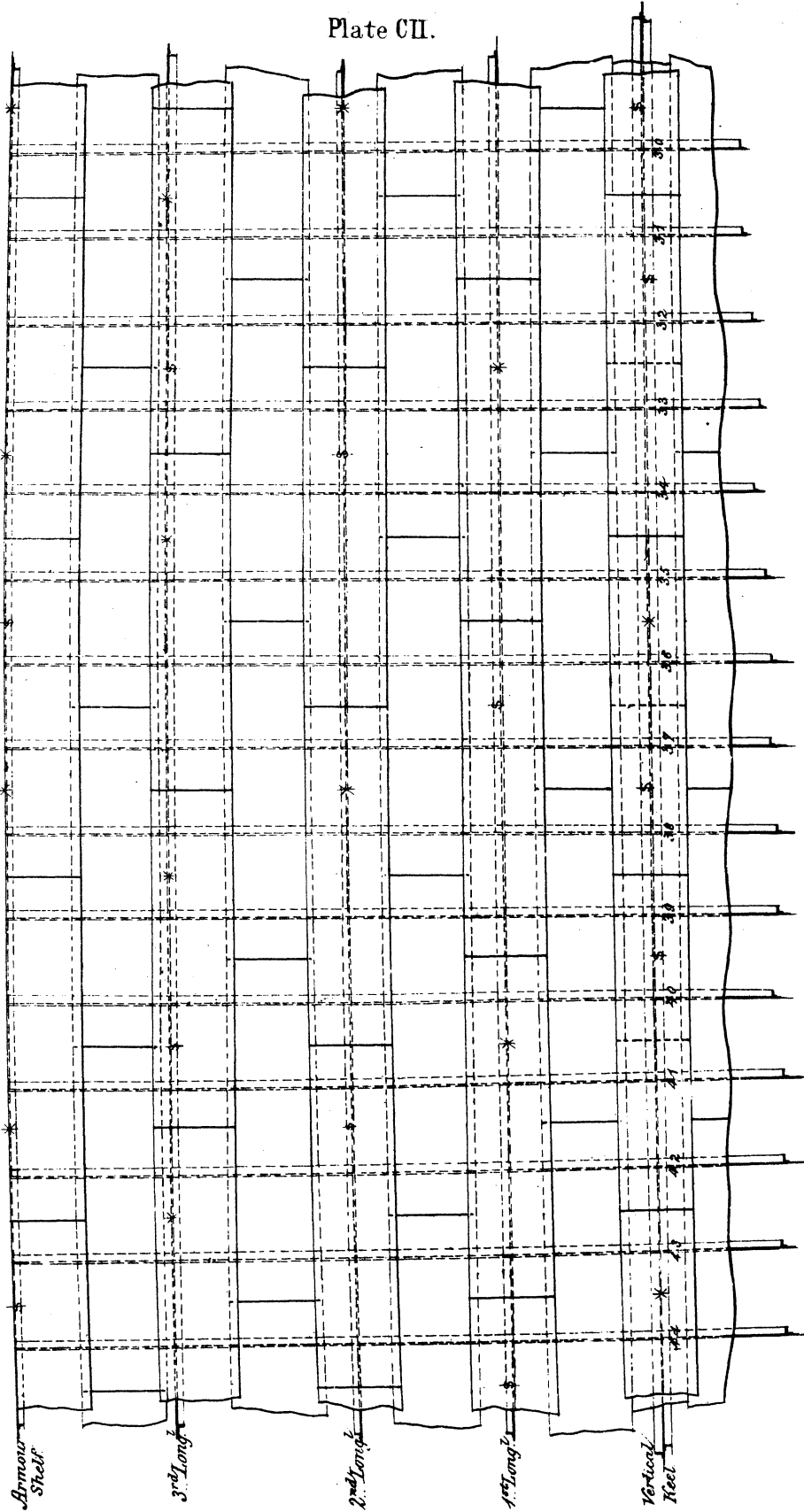
Bulbs of Longitudinal Plates thus...	*
D°	Angle irons "
	\$

20.

20

Angle irons

4



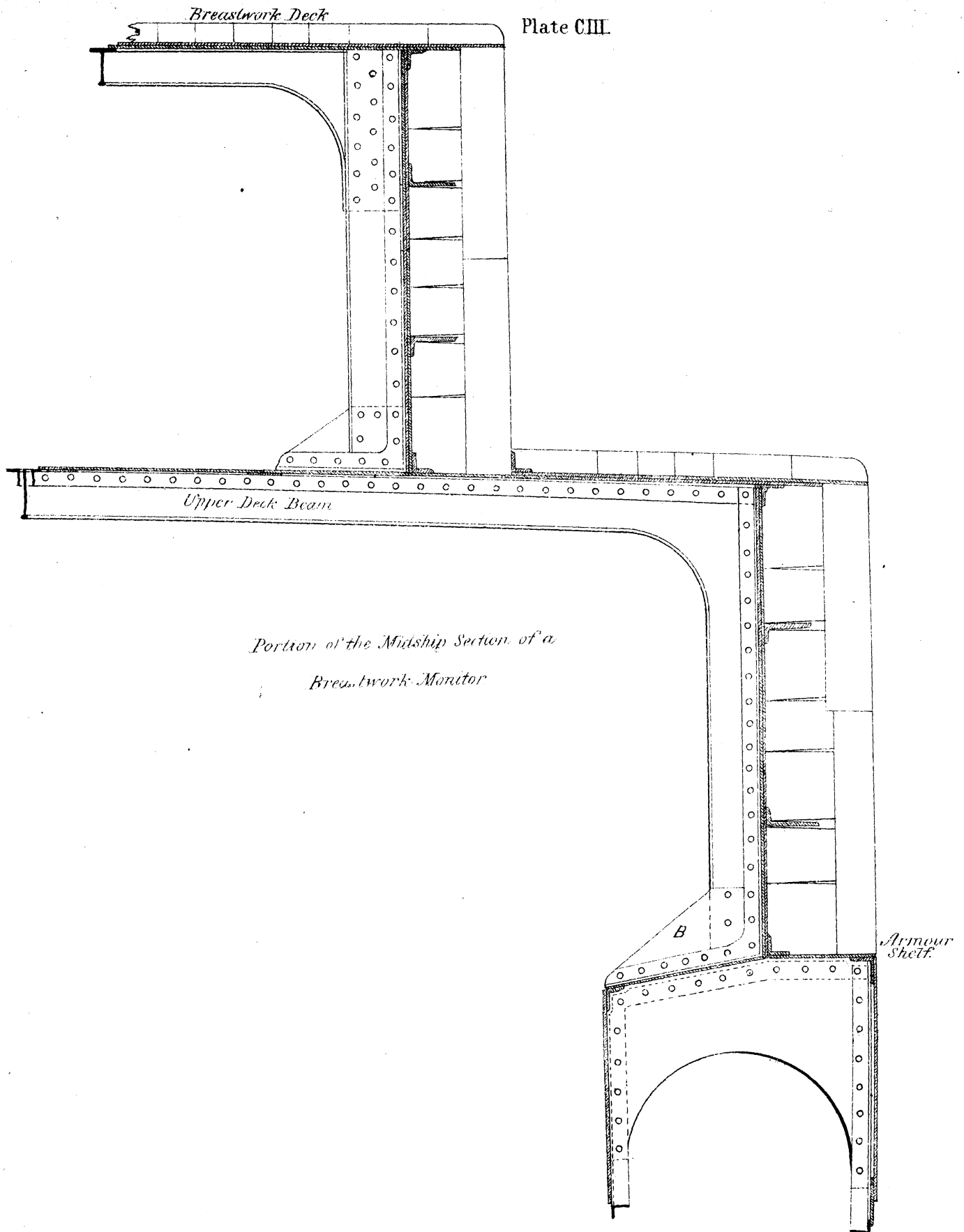


Plate CIV.

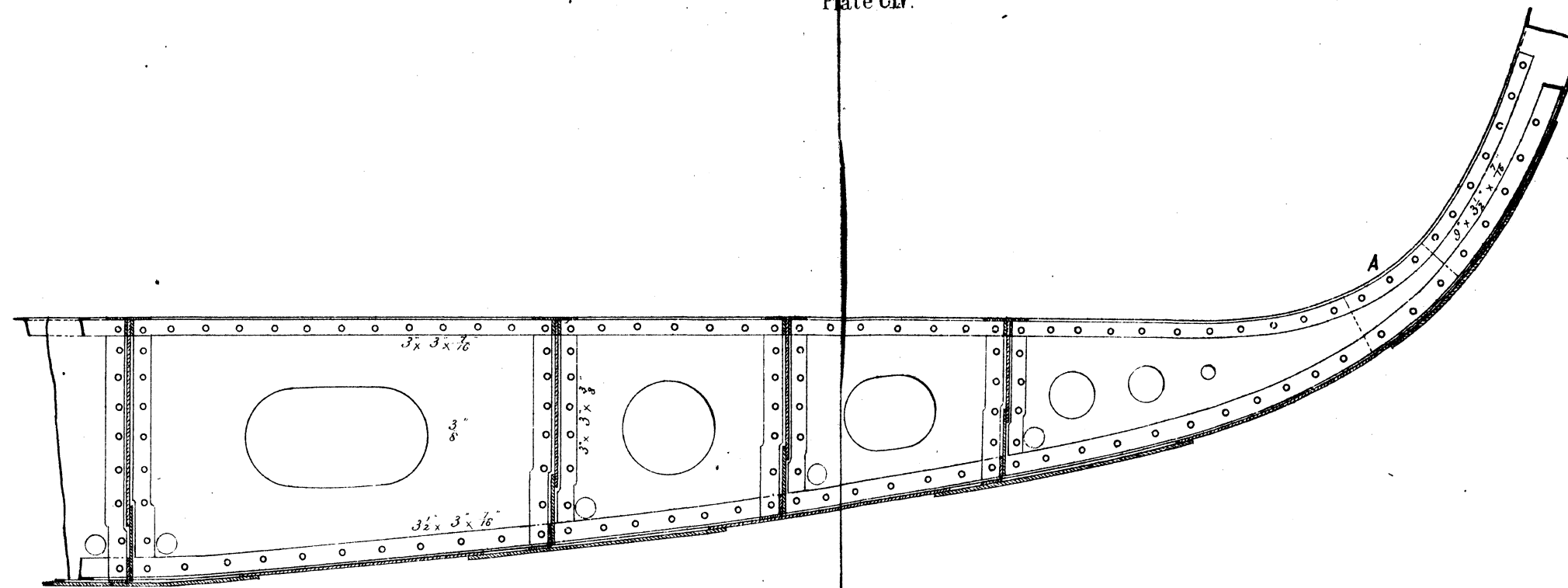


Plate CV.

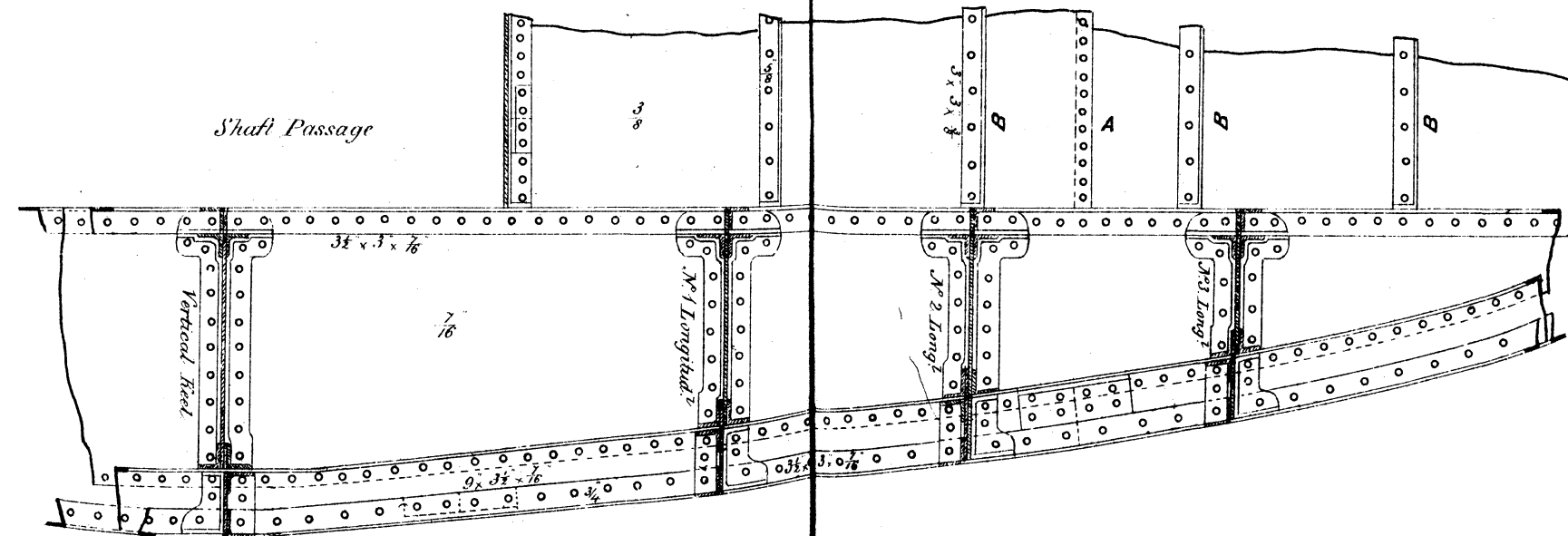
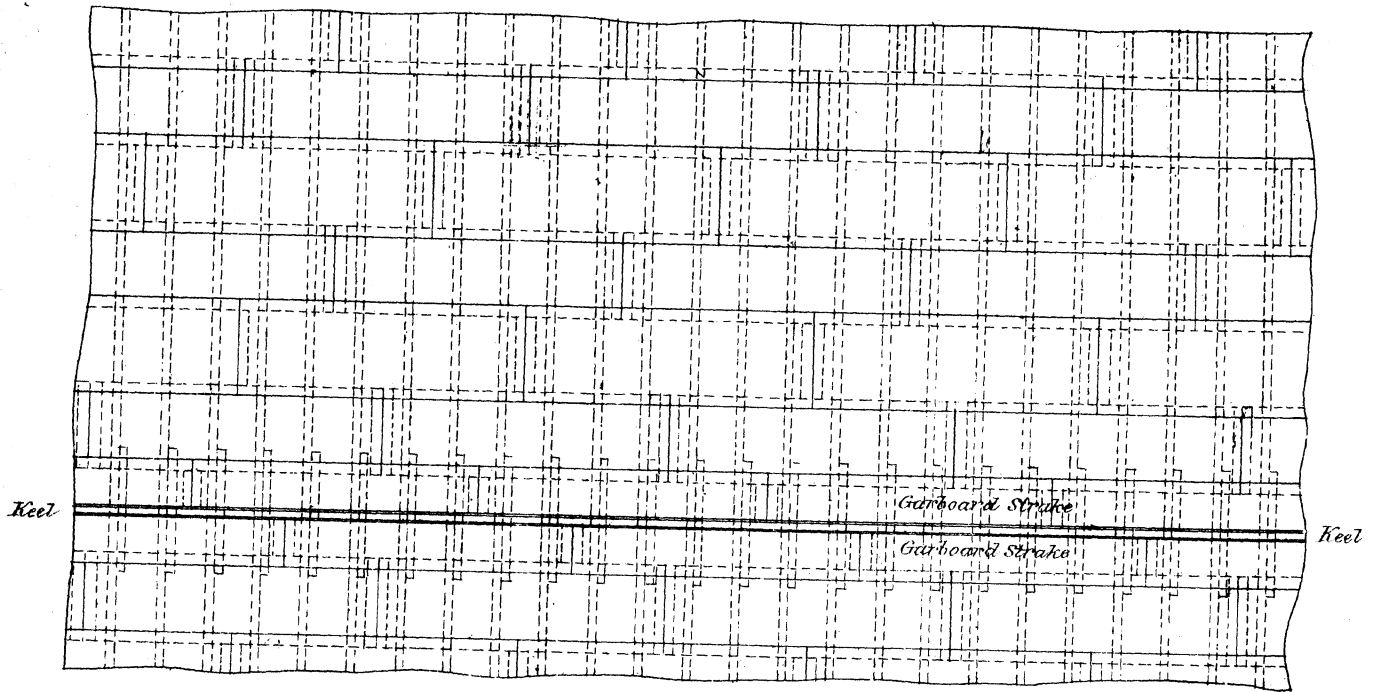


Plate CVI
Diagonal Shift of Butts.

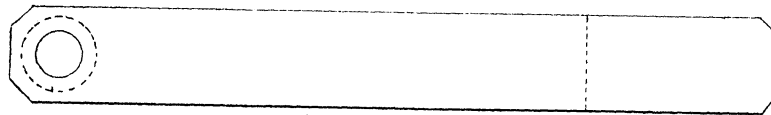


Scale $\frac{1}{8}$ of an inch to the foot

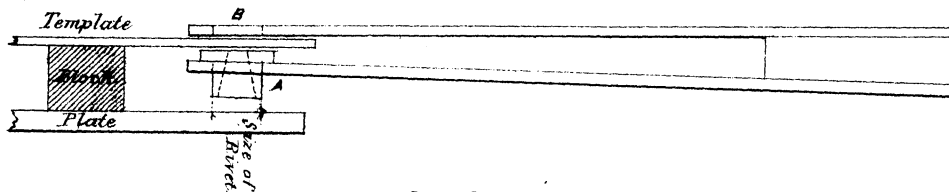
Plate CVII

Reversing Tool for marking Rivet Holes.

PLAN.



ELEVATION.



Scale 3 ins to the foot.

Plate CVIII

Expansion of Bottom Plating, forward.

Bulls of Longitudinal Plates, thus:—.....

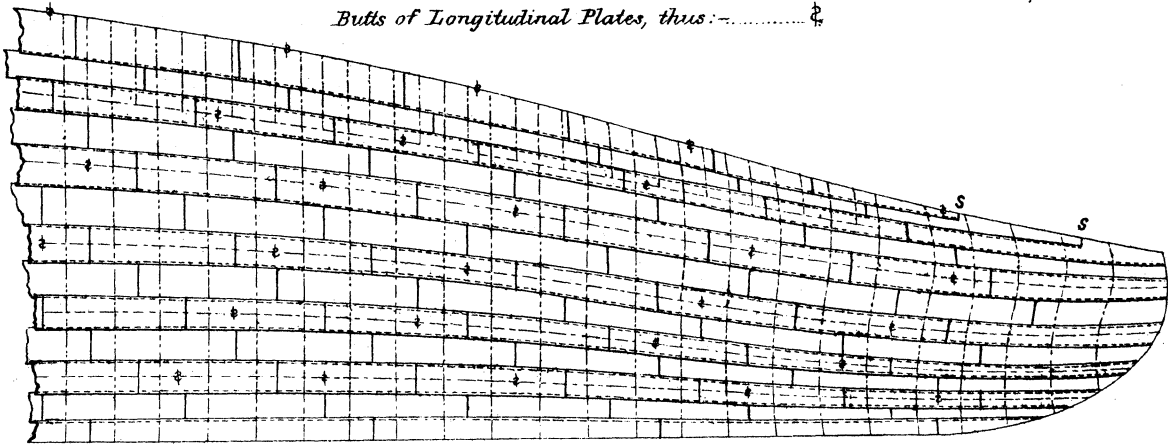
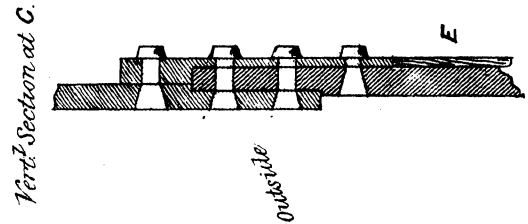
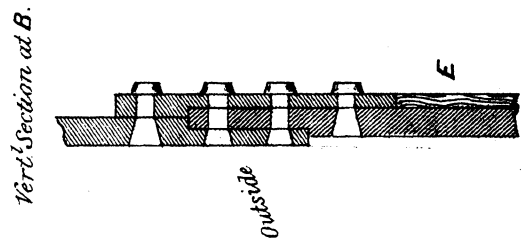
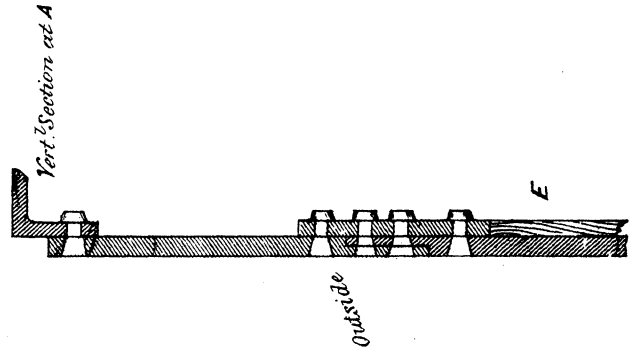
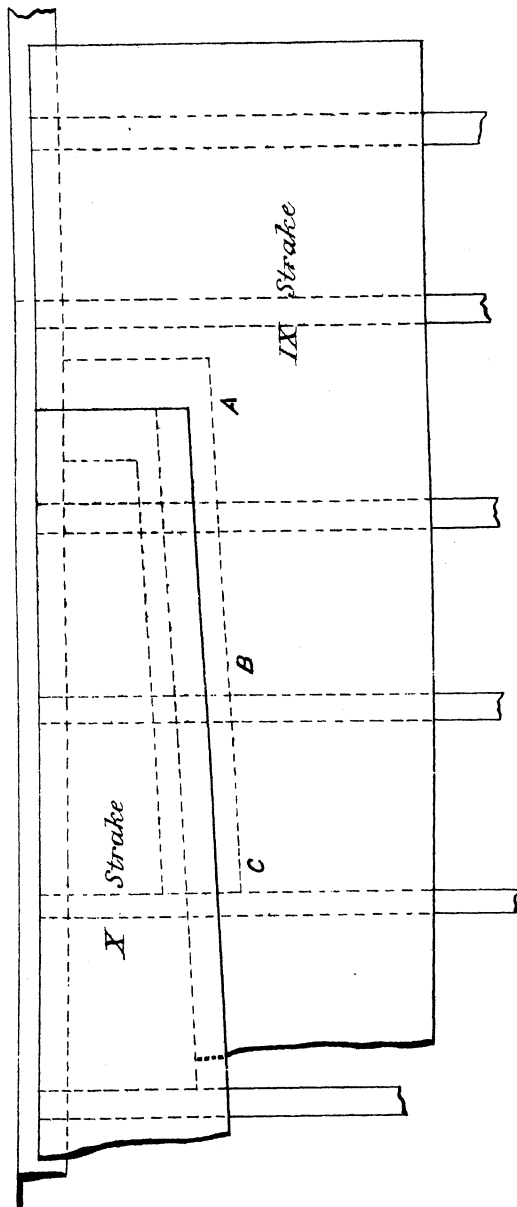
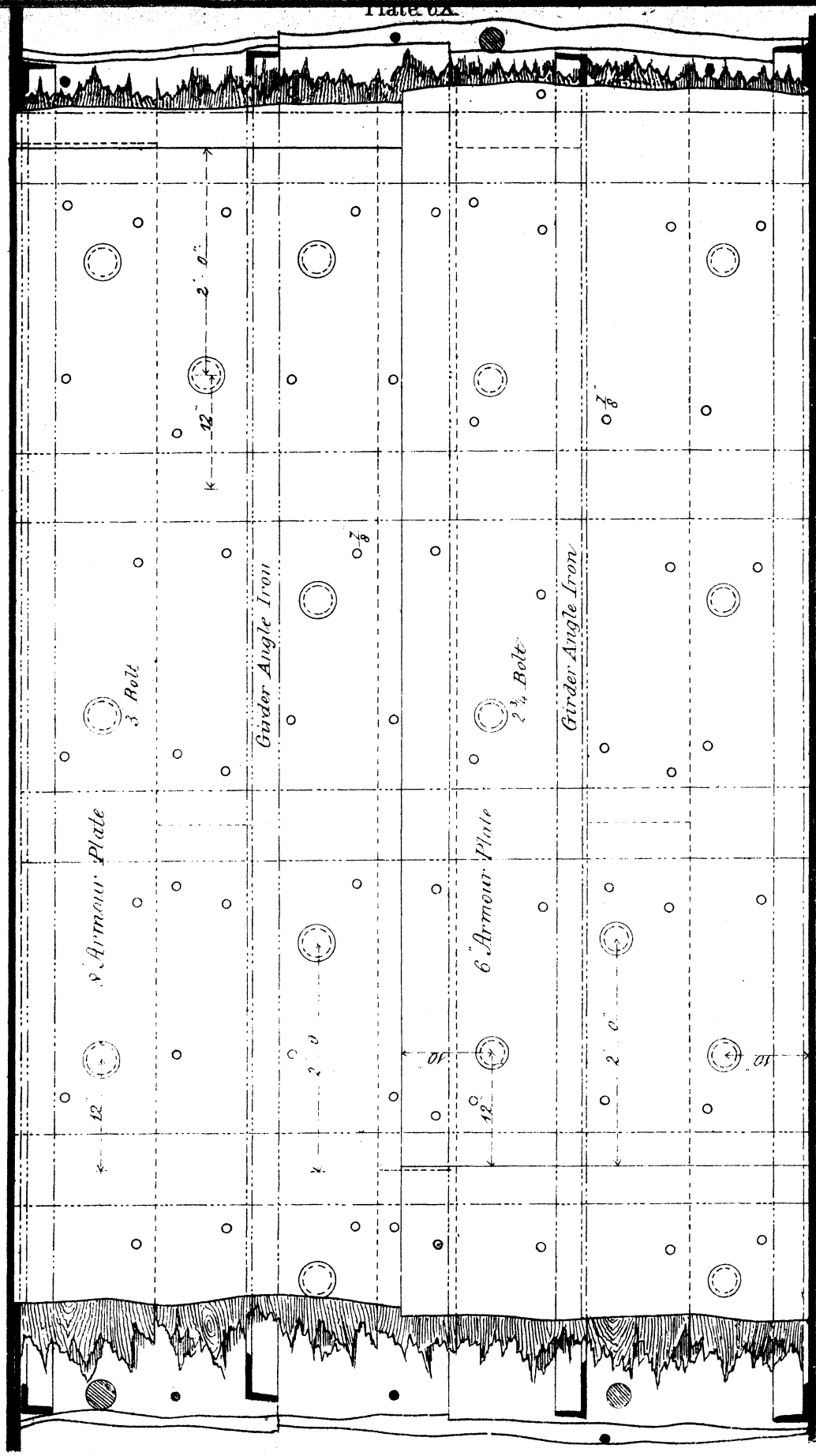


Plate CIX





Armour Bolts thus.
Backing

Plate CXI

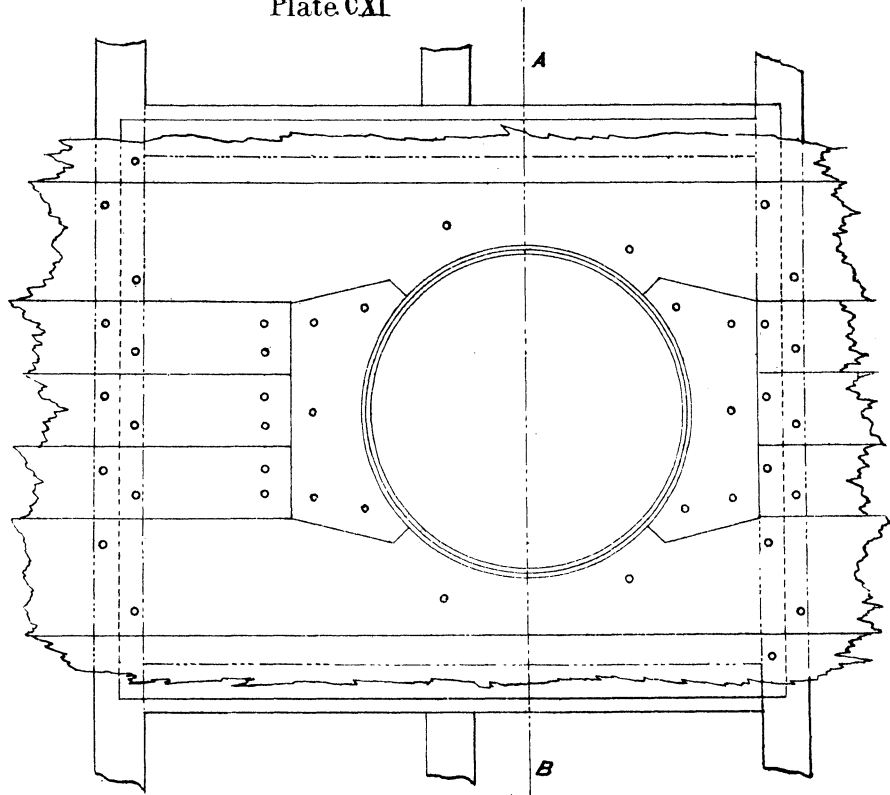
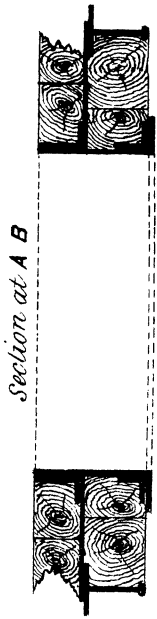


Plate CXII

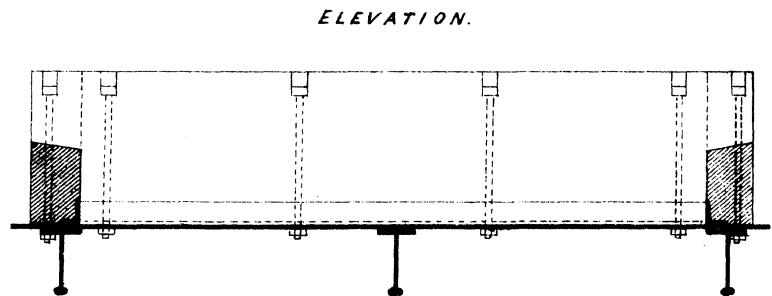
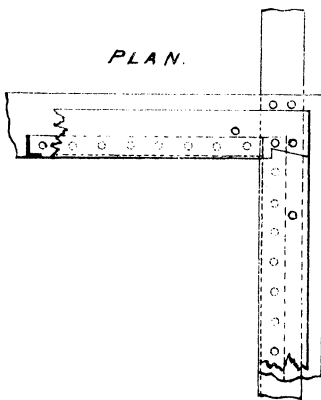


Plate CXIII

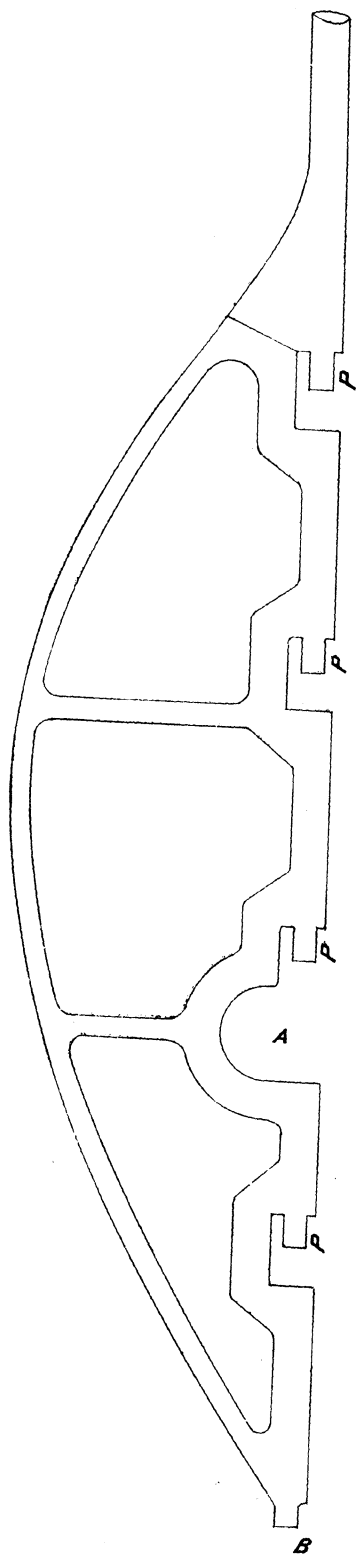
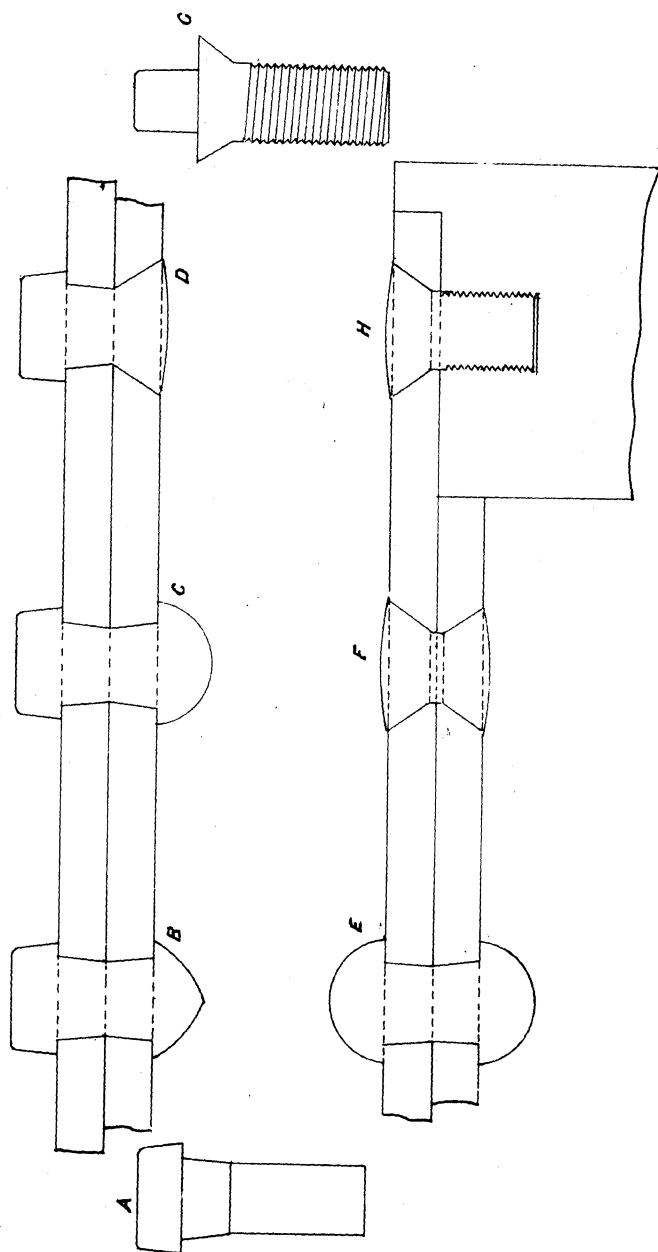
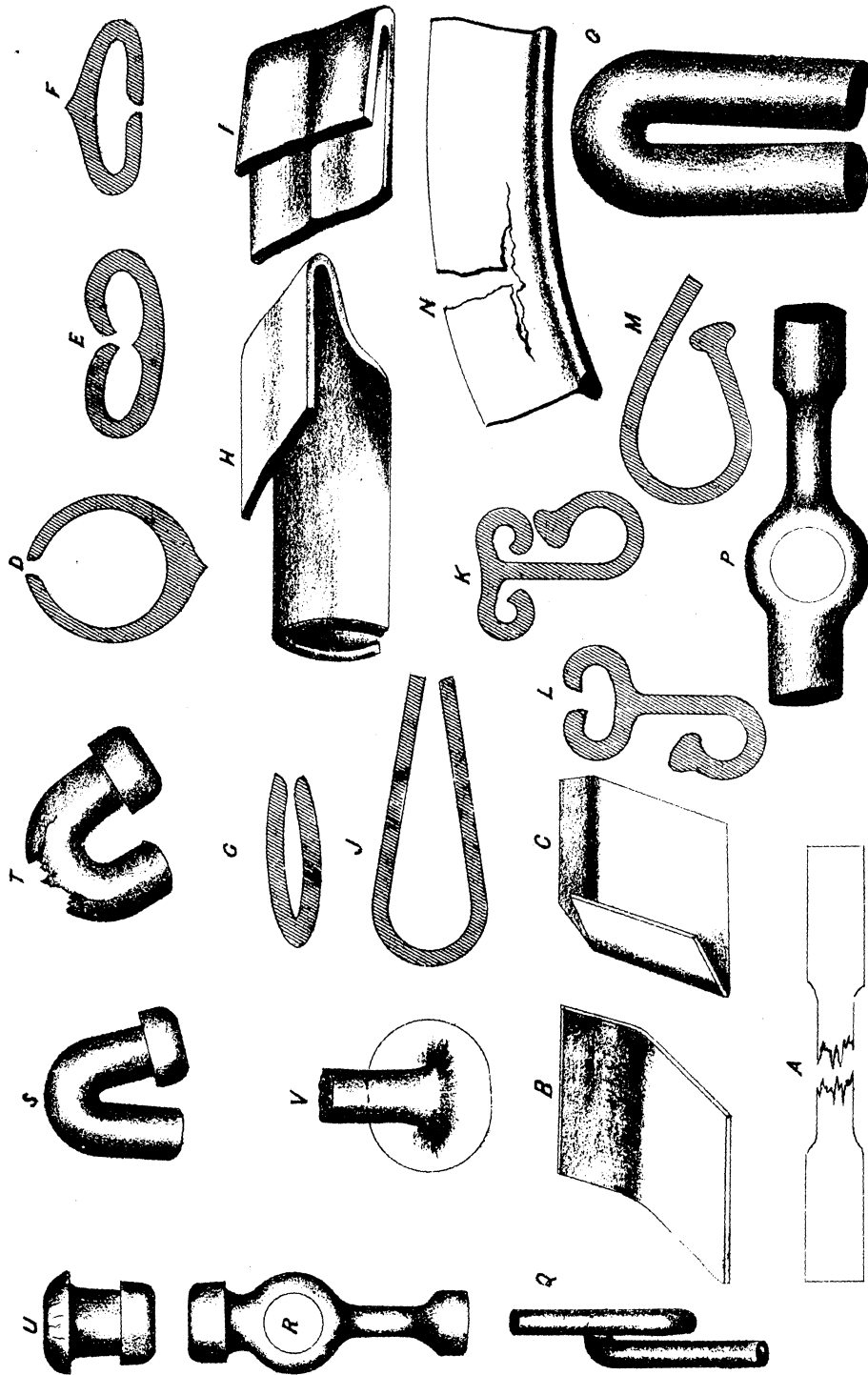
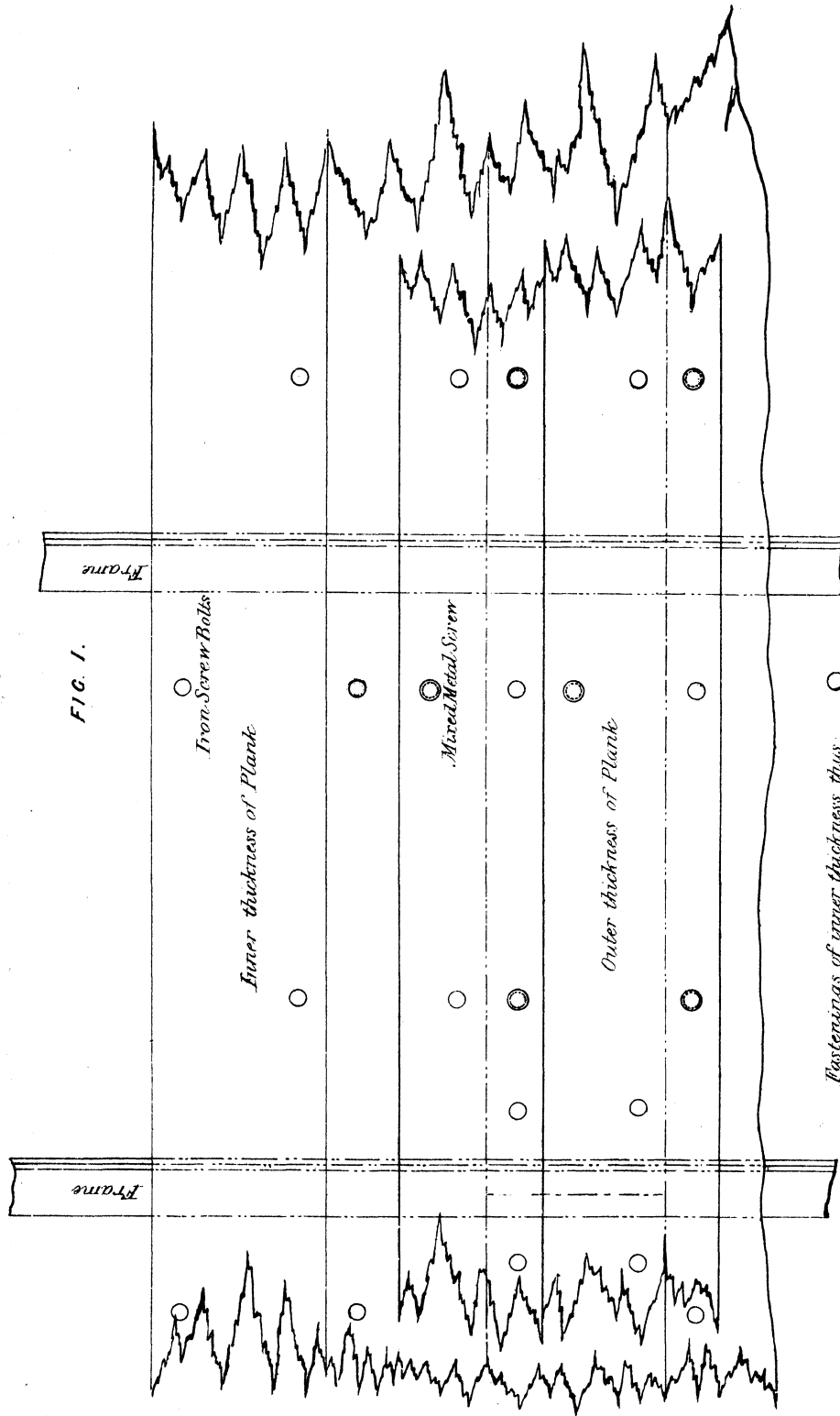


Plate CXIV







Fastenings of inner thickness thus:

" " " "

FIG. 2.

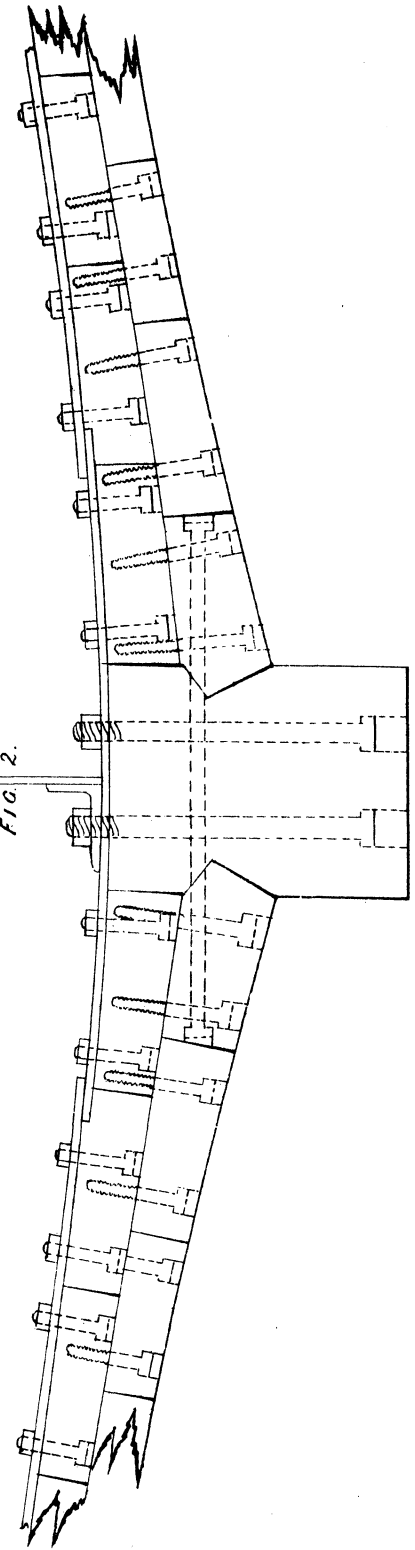
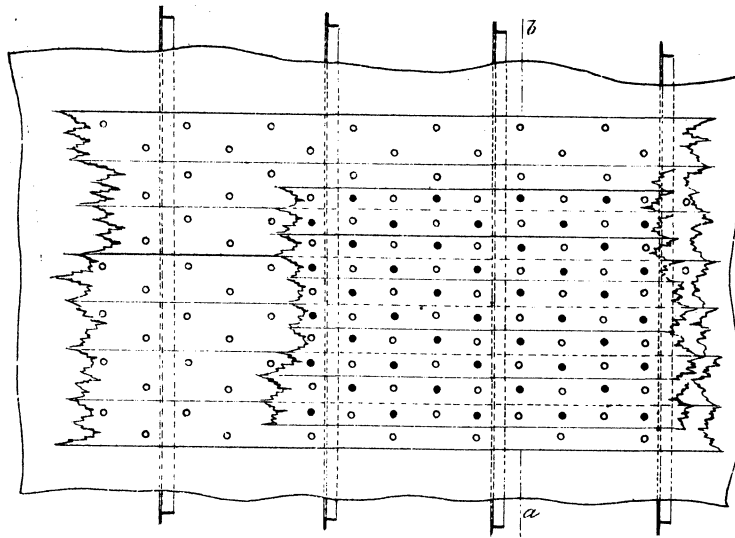
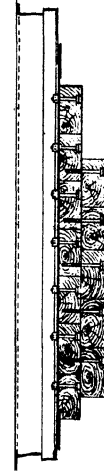


Plate CXVII

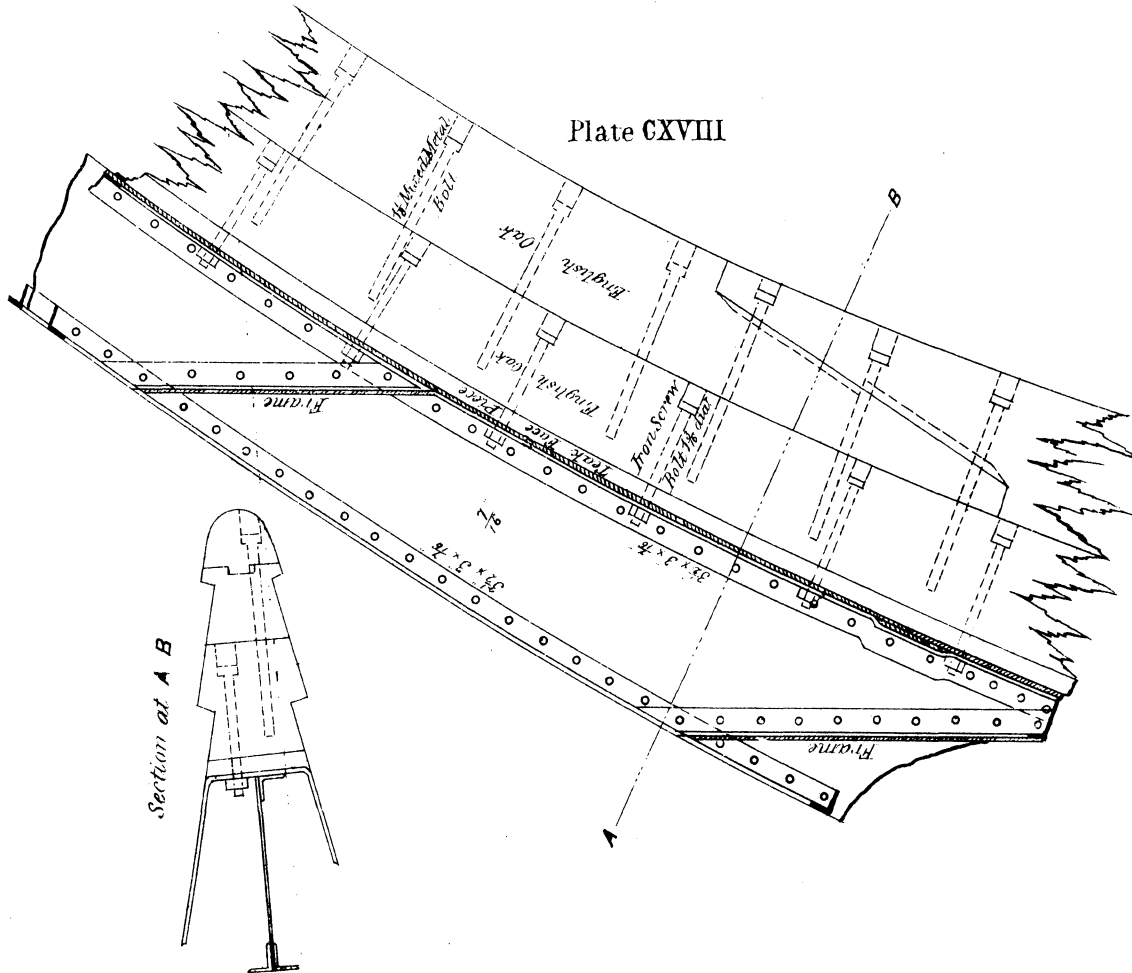


Section through a b.

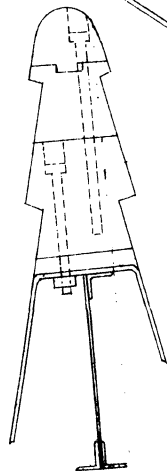


- 1 Inch Iron Bolts for fastening inner sheathing.
- $\frac{5}{8}$ " Metal " " " " outer "

Plate CXVIII



Section at A B



HALF MIDSHIP SECTION OF A VESSEL WITH TWO DECKS,
OF 800 & UNDER 900 TONS,

BY LLOYDS RULES.

Length 193' 0"
Breadth moulded 32' 6"
Depth 20' 3"

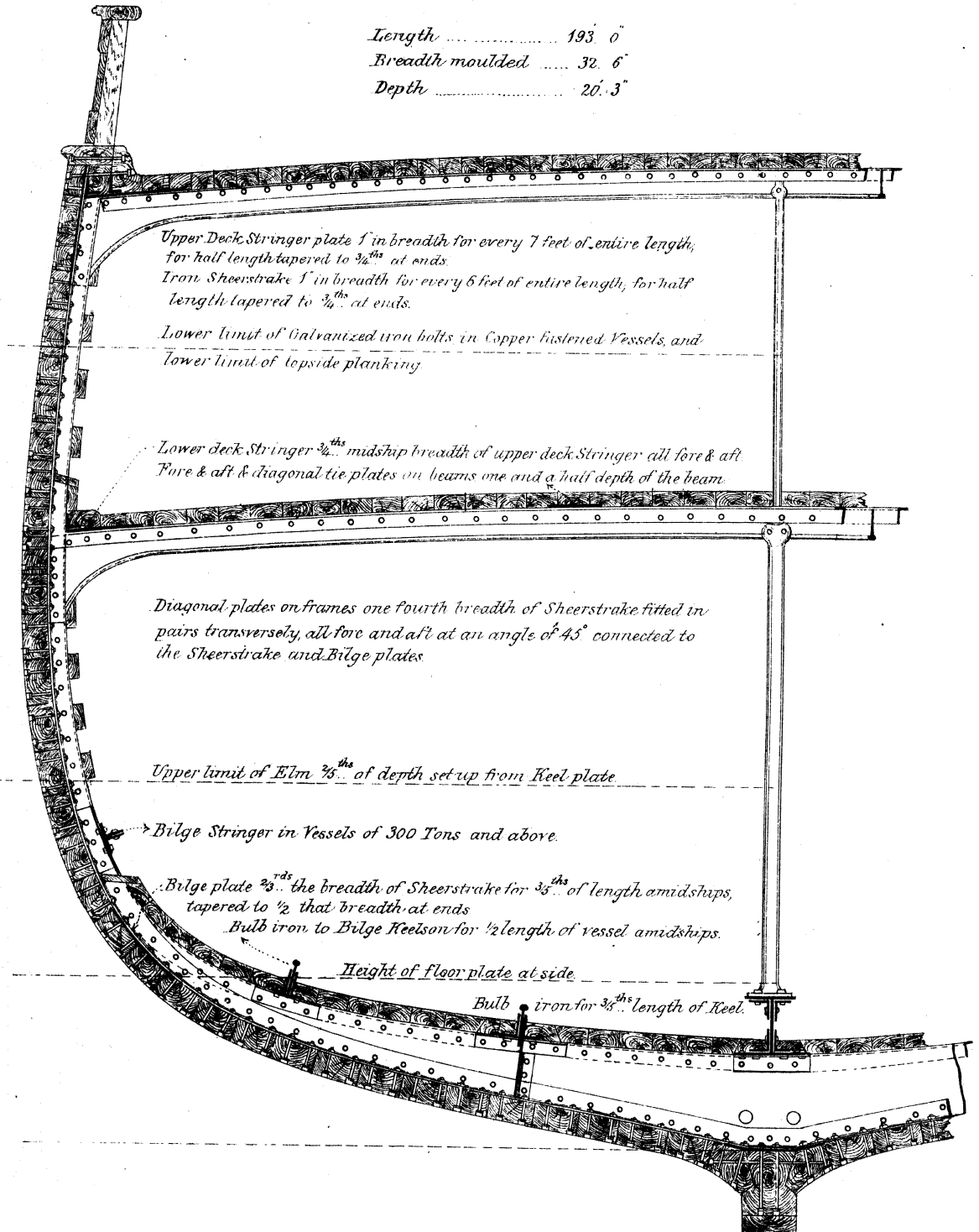


Plate CXX

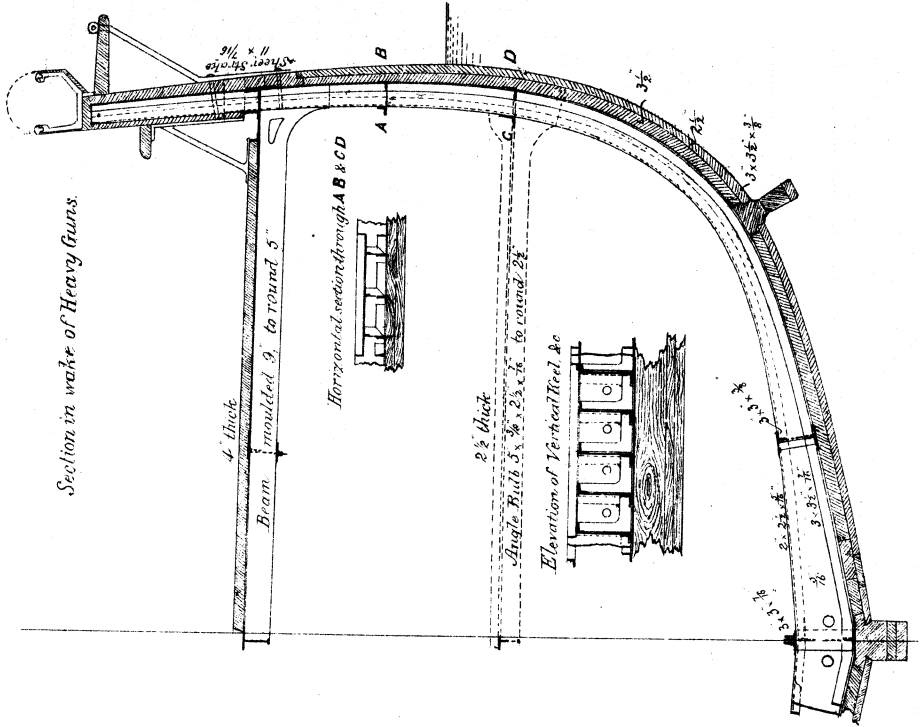
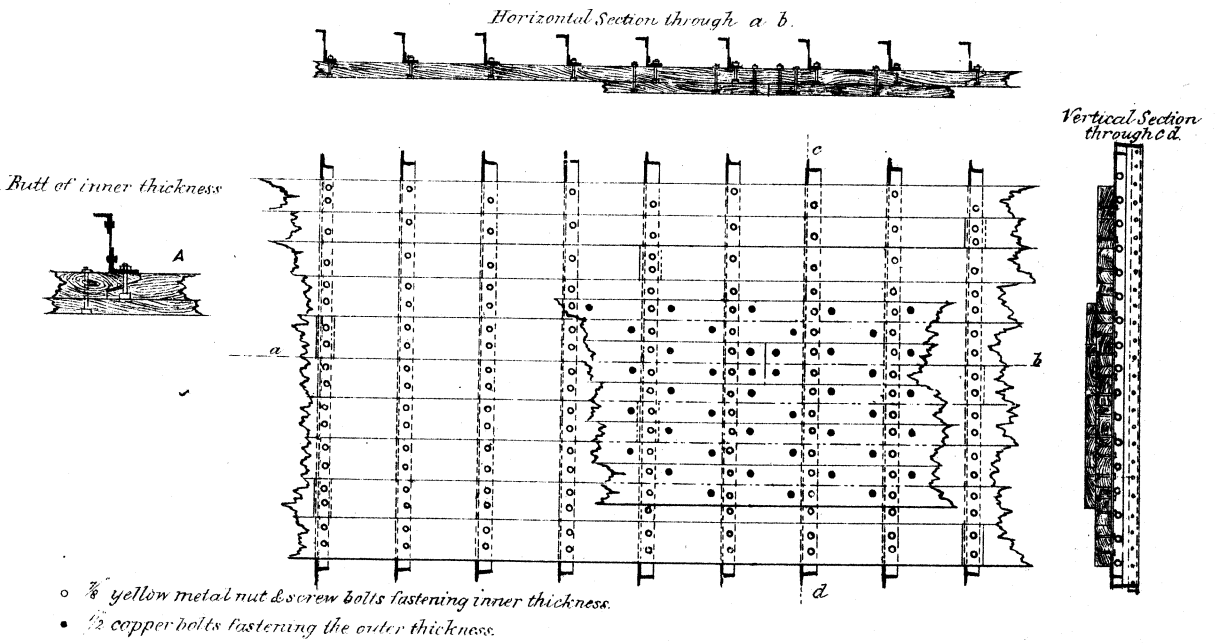


Plate CXXI



- $\frac{3}{8}$ yellow metal nut & screw bolts fastening inner thickness.
- $\frac{1}{2}$ copper bolts fastening the outer thickness.

FIG. 1.

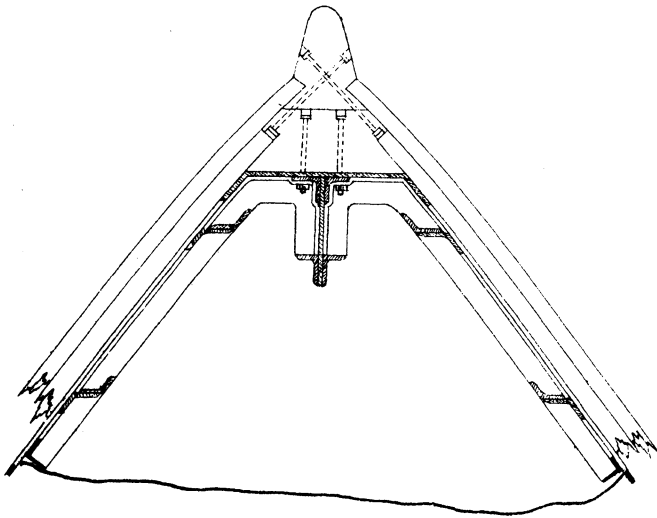


FIG. 2.

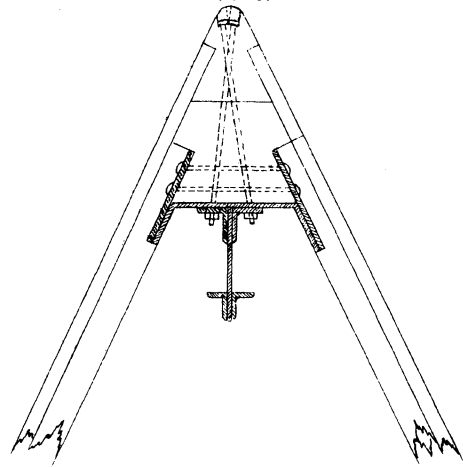


FIG. 3.

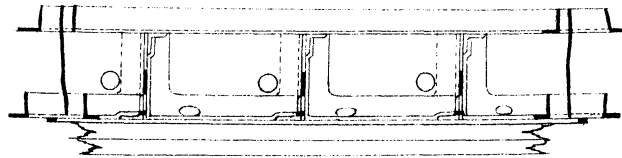
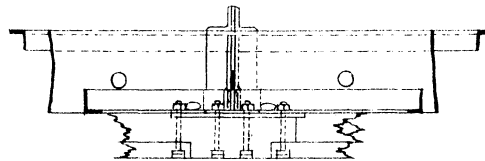


FIG. 4.



Bulkheads

Bulkheads

Private place

